

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
October 10, 2001

TPEAC ENDORSEMENT OF THE GUIDELINES FOR INTERACTION (Bylaws)	TPEAC RESOLUTION NUMBER <u> 1 </u>
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**WASHINGTON STATE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE**
Guidelines for Interaction
(Bylaws)

ARTICLE I

Membership

1. All voting and nonvoting members of the Washington State Transportation Permit Efficiency and Accountability Committee, hereinafter referred to as the TPEAC, shall be appointed in accordance with Section 3, Chapter 2, 2001 Laws 1st Special Session. Members shall appoint alternates to serve in their absence.
2. Nonvoting members shall enjoy all the privileges of TPEAC membership, except voting, including the right to sit with the TPEAC, participate in discussions, and make and second motions. These privileges include participation in Technical Subcommittee of the TPEAC.

Reimbursement for Expenses

1. Nonvoting TPEAC members shall be eligible for reimbursement of expenses for TPEAC activities in accordance with RCW 43.03.050 and 43.03.060.
2. For the purposes of reimbursement, TPEAC activities include: attendance at TPEAC meetings, attendance at Technical Subcommittee meetings on which the TPEAC member serves, and at other meetings when officially designated as representing the TPEAC (prior TPEAC approval needed).

ARTICLE II

TECHNICAL SUBCOMMITTEES

The Technical Subcommittees of the TPEAC shall be the Programmatic Process, One-Stop, Permitting, Watershed-Based Approach to Environmental Mitigation, Pilot Projects, and Training, Compliance, and Reporting, Technical Subcommittees.

Programmatic Process Technical Subcommittee

Objectives: To facilitate the creation of a programmatic permit process; to identify and deploy inter-agency resources to develop programmatic; to assist with programmatic permits between agencies and report to the committee.

One-Stop Permitting Technical Subcommittee

Objective: To facilitate the creation and adoption of a one-stop permitting process between multiple agencies.

Watershed-Based Approach to Environmental Mitigation Technical Subcommittee

Objectives: To facilitate the development of a watershed-based approach to environmental mitigation for transportation projects; to develop methodologies for mitigation on a watershed basis that meets multiple agency criteria for project permitting.

Pilot Projects Technical Subcommittee

Objective: To identify and oversee transportation pilot projects for application of environmental permit streamlining processes.

Training, Compliance, and Reporting Subcommittee

Objectives: To develop necessary training programs for new processes and procedures as identified by other subcommittees; to develop compliance and reporting guidelines that will support the implementation and management of permitting activities.

Additional Subcommittees

Additional subcommittees may be created by the TPEAC to assist the TPEAC in fulfilling responsibilities as needed.

Technical Subcommittee Rules of Operation

1. Technical subcommittees shall be composed of members representing any interest group as identified in Section 3, Chapter 2, 2001 Laws 1st Special Session. Members shall be appointed by the Chair of the TPEAC and shall serve as needed.
2. Technical subcommittees created for a specific pilot project or pilot projects must include representatives of local jurisdictions affected by those projects.
3. The Chair of the technical subcommittee shall be a voting or nonvoting member of the TPEAC.
4. Technical subcommittees may conduct research into issues relevant to their charter, and develop recommendations for TPEAC action as requested by the TPEAC.
5. Recommendations from a technical subcommittee to the TPEAC shall be made, when possible, by consensus of the technical subcommittee. Consensus

recommendations shall include a brief summary of the rationale for each recommendation.

6. Disputed recommendations from a technical subcommittee shall be presented as options for consideration and final determination by the TPEAC. The technical subcommittee may include a report outlining all issues related to the subject as part of its findings.
7. Recommendations made by a technical subcommittee shall be reviewed by TPEAC and considered for adoption. If adopted, a majority of the appointed voting members of the TPEAC must approve.

ARTICLE III

MEETING PROCEDURES

Regular TPEAC Meetings

1. The TPEAC shall adopt an annual schedule of regular TPEAC meetings for each calendar year. Regular TPEAC meetings will be held at such time and place to efficiently carry out the TPEAC's responsibilities. TPEAC meetings shall not be held on recognized holidays.
2. Regular TPEAC meetings shall be held at a location designated by the Chair and approved by the TPEAC.
3. The yearly schedule of regular TPEAC meetings, and any changes to that schedule, shall be filed with the State Code Reviser's Office in accordance with RCW 42.30.075.
4. A regular TPEAC meeting may be canceled by the Chair when there is evidence of insufficient agenda material or for other justifiable reasons.

Special TPEAC Meetings

A special TPEAC meeting may be called at any time by the Chair or a majority of the voting members of the TPEAC by delivering personally, by fax or by mail, a written notice to each member of the TPEAC and the general public as per RCW 42.30, the Open Public Meetings Act. Such notice shall be delivered personally, or postmarked 72 hours in advance of the time of the meeting specified in the notice. The call and notice shall specify the time and place of the special meeting and the business to be transacted. Final disposition shall not be taken on any other matter at such special meetings of the TPEAC.

Adjournment

The TPEAC may adjourn any meeting to a time and place specified in the order of adjournment. Less than a quorum may so adjourn a meeting. If all members are absent from any regular or adjourned regular meeting, the Chair of the TPEAC or TPEAC staff may declare the meeting adjourned to a stated time and place. The TPEAC staff shall circulate a written notice of adjournment in the same manner as provided in Section 1 of the rules for special meetings. Whenever any meeting is

adjourned, a copy of the order or notice of adjournment shall be conspicuously posted immediately after the time of the adjournment on or near the door of the room where the meeting was held. When an order or adjournment of any meeting fails to state the hour at which the adjourned meeting is to be held, it shall be held at the hour specified for the regular meetings.

Meeting Continued

Any meeting being held or ordered to be held by the TPEAC at any meeting may, by order or notice of continuance, be continued to any subsequent meeting of the TPEAC in the same manner and to the same extent as set forth in Section 1 of these rules for the adjournment of a meeting.

Meetings to be Open and Public

1. All meetings of the TPEAC shall be open and public and all persons shall be permitted to attend any meetings of the TPEAC as provided in RCW 42.30, the Open Public Meetings Act.
2. All meetings of the TPEAC shall be held in accessible facilities.

Members of Public Not Required to Fulfill any Condition Precedent to Attendance

A member of the public shall not be required, as a condition of attendance at a meeting of the TPEAC, to register his/her name and other information, to complete a questionnaire, or otherwise to fulfill any condition precedent to his/her attendance.

Meetings Interrupted by Group or Groups of Persons

In the event that any meeting is interrupted by a group or groups so as to render orderly conduct of such meeting unfeasible, and order cannot be restored by removal of individuals who are interrupting the meeting, the members of the TPEAC conducting the meeting may order the meeting room cleared and continue the session, or may adjourn the meeting and reconvene at another location selected by a majority of the members. In such a session, the final disposition may be taken only on matters appearing on the agenda. Representatives of the press or other news media, except those participating in the disturbance, shall be allowed to attend any session held pursuant to this section. Nothing in this section shall prohibit the TPEAC from establishing a procedure for readmitting an individual, or individuals, not responsible for disturbing the orderly conduct of the meetings.

TPEAC Shall Not Adopt Resolutions Except in Open Meetings

The TPEAC shall not adopt any resolution except in a meeting open to the public and then only at a meeting, the date of which is fixed by rule, or at a meeting of which notice has been given according to the provisions of these rules.

Meeting Minutes and Agendas

1. The minutes of all TPEAC and Technical Subcommittee meetings shall be taken by Department of Transportation support staff.
2. The staff shall transcribe, from the recorded minutes, the TPEAC or technical subcommittee's proceedings showing the action of the TPEAC or technical subcommittee on each question. Such minutes shall immediately be filed and shall be public record.
3. Minutes of TPEAC meetings will be recorded. The recorded minutes will be retained for a period of six months. After six months, the written record will become the permanent and official record.
4. All minutes will be produced for TPEAC or technical subcommittee review and approval.
5. All agenda items for a regular meeting must be submitted to TPEAC staff two weeks prior to the regular meeting date and approved by the chair.
6. Minutes for the previous TPEAC meeting and the agenda for the next scheduled TPEAC meeting will be mailed to the TPEAC members and interested public at least seven days prior to the next regular TPEAC meeting date for their consideration.

Quorum

Five (5) voting members of the TPEAC shall constitute a quorum for the transaction of business.

Order of Business

The order of business shall be determined by the agenda as posted as a prelude to these bylaws.

Public Comment

The TPEAC Chair may solicit public comment on all agenda items during regular meetings.

Motions, Resolutions, and Regulations

1. All actions of the TPEAC shall be expressed by motion and/or resolution.
2. No motion or resolution shall have any validity or effect unless passed by the affirmative votes of the majority of the voting members present.
3. All motions and resolutions shall be recorded in the minutes and transmitted to such persons as may be affected by the actions of the TPEAC to which such motions and resolutions may pertain. No representative of the TPEAC shall utilize the name of the TPEAC to endorse or oppose an issue unless a majority of the voting members of the TPEAC approve of such position.

Manner of Voting

1. The voting on elections, motions, and resolutions shall be by voice vote.
2. In lieu of voice vote, a TPEAC member may request a roll call or show of hands vote. The roll call vote shall be conducted after a request by any member of the TPEAC.
3. For the votes of technical subcommittees, and to determine consensus, only subcommittee members, appointed by the TPEAC Chair shall be allowed to vote.

Robert's Rules of Order

All rules of order not herein provided for shall be determined in accordance with the newly revised Robert's Rules of Order.

ARTICLE IV

Amendment to the Bylaws

TPEAC Bylaws may be amended upon a two-thirds majority vote by voting TPEAC members.

ARTICLE V

Construction of Rules of Interaction

All rules and procedures set forth herein shall be liberally construed so that the public welfare shall be secured in accordance with the intents and purposes in the Transportation Permit Efficiency and Accountability Act.

ADOPTED by the TPEAC (October 10, 2001).

Senator Dan Swecker, Committee Chairman

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
October 10, 2001

TPEAC ENDORSEMENT OF THE DISPUTE RESOLUTION PROCESS	TPEAC RESOLUTION NUMBER <u> 2 </u>
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Dispute Resolution Process

BACKGROUND

The intent of the Permit Streamlining effort is to develop innovative ways to improve the process of permitting, and timely adoption of streamlined processes is critical. In the conduct of work toward meeting the objectives of the Act, the regular participants at the committee, sub-committee or project level should resolve disputes, if at all possible, at that level. In the event that disputes cannot be resolved at that level, a dispute resolution process shall be adopted. Generally speaking, formal dispute resolution should be limited to critical matters that impair the ability of the committee, sub-committee or project to move forward. Disputes can be resolved to accomplish several purposes. Surfacing issues and referring them to higher authority should be seen as a good thing, not as a failure. Some issues must be elevated to get resolution – to bring to bear on the issue policy perspective, command over resources, broad agency perspectives, and fresh eyes.

The process shall be reviewed and revised as necessary.

Based on previous experience in resolving disputes associated with transportation projects, it is recommended by the participating agencies that the parties in question consider the following:

1. Recognize the urgency of getting to decisions, and invoke the dispute resolution process in a timely manner and move through the process in a timely manner.
2. The parties in dispute shall make efforts early on in the dispute to assess the nature of the dispute, the interests at stake, whether a precedent is set, and the scale of the impact.
3. There are thresholds of disputes that warrant elevation within the informal resolution steps:
 - a. It is expected at steps 1-2 that issues of agreement on terms, information, domains of expertise, and personal conflicts shall be resolved.
 - b. It is expected that interpretations of agency policy, procedure, or legal mandates are resolved between Steps 2-3.

- c. Disputes involving agency jurisdiction, insufficient resources failure to deliver or fulfill a commitment, fundamental disagreement on mission and mandate, or agency cultural conflict are more likely to need elevation to steps 3-6.

DISPUTE RESOLUTION PROCESS

Wherever possible the following steps will be followed to resolve such disputes.

Informal Steps

Step 1. Issues of dispute will be discussed in the regular committee, sub-committee or project process.

Step 2. If a dispute arises which cannot be resolved in the regular process any individual may request that the parties to the dispute and their managers meet separately. Parties to the dispute will hold this meeting. If there is no reasonable resolution after two meetings or one month, then proceed to Step 3.

Step 3. If the separate meeting does not result in resolution any party and their manager may request a 3rd party not involved in the dispute to act as a mediator at a subsequent meeting. That third party must be a member of TPEAC, but not the Chairman. If there is no reasonable resolution after two meetings or one additional month, then proceed to Step 4.

Formal Steps

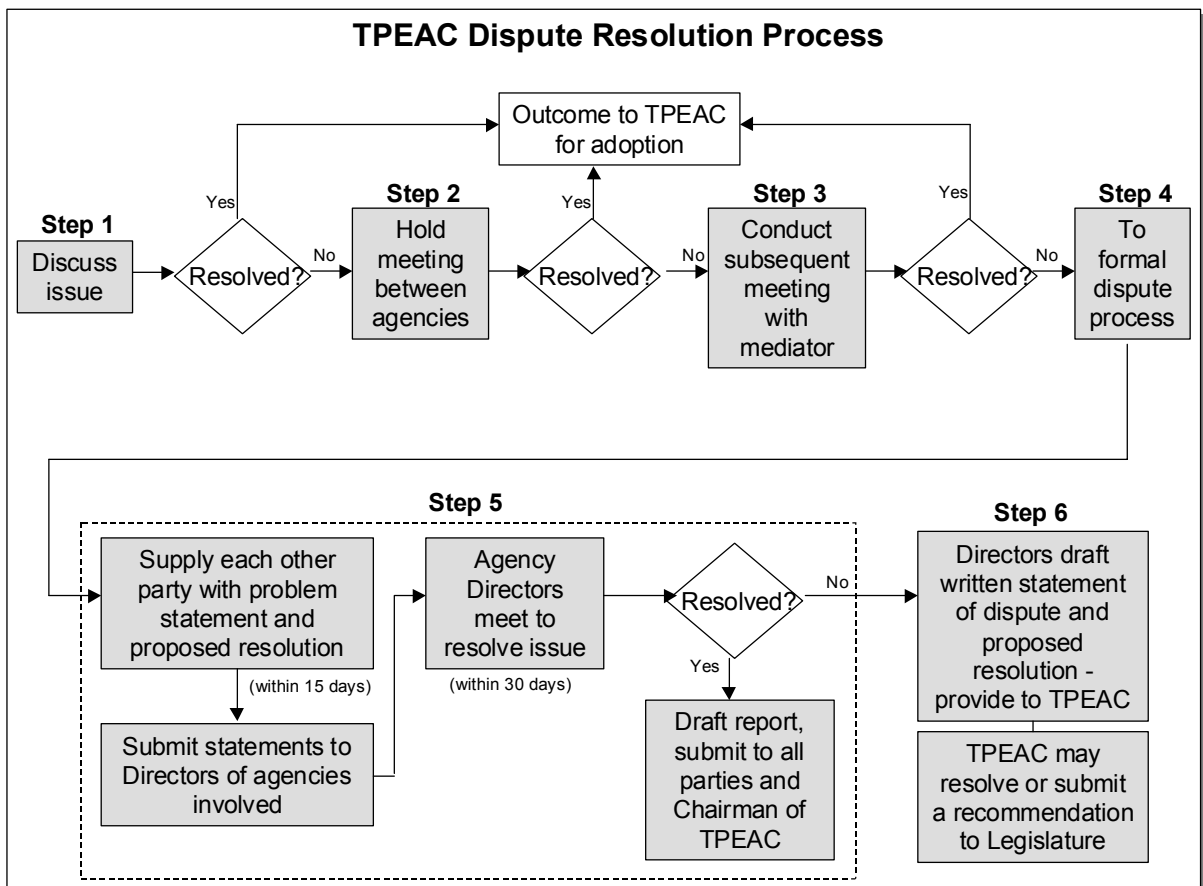
Step 4. If mediation is unsuccessful any party to the dispute along with any other party to the dispute or with the mediator or the Chairman of TPEAC may initiate a formal dispute resolution process. It requires at least two parties.

Step 5. Once initiated, the parties in dispute will supply each other with written statements of the problem and their proposed resolution. This must be completed within 15 working days. These statements shall be forwarded to the Directors of the agencies involved and the Directors or their designee shall meet to resolve the issue. This meeting shall occur within 30 working days. A report of that resolution shall be drafted and submitted to all parties to the dispute and to the Chairman of TPEAC for the record. If any of the parties do not respond within the 30 day timeframe, the TPEAC may take action to resolve the dispute if it is within its jurisdiction or it may submit a recommendation about the matter to the Legislature.

Step 6. If the Directors are unable to resolve the dispute, each shall provide a written statement of the dispute and his/her proposed resolution of the matter to TPEAC. The TPEAC may take action to resolve the dispute if it is within its jurisdiction or it may submit a recommendation about the matter to the Legislature.

It should be noted that after step 3, any party may draft a minority report to TPEAC whether the dispute resolution goes forward or not.

DIAGRAM OF PROCESS



ADOPTED by the TPEAC (October 10, 2001).

Senator Dan Swecker, Committee Chairman

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
November 14, 2001

FOR THE PURPOSE OF DESIGNATING STREAMLINING PILOT PROJECTS	TPEAC RESOLUTION NUMBER <u> 3 </u>
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Engrossed Senate Bill 6188 pf 2001 formed the Transportation Permit Efficiency and Accountability Committee. Section 5 of the Act directs the committee to select and conduct three permit reform pilot projects, testing assignment of responsibilities for such activities as permit drafting and compliance to the Department of Transportation.

The Department of Transportation and the Pilot Project technical subcommittee have examined upcoming transportation projects and selected three projects for recommendation to TPEAC. Projects were screened relative to environmental impacts, stage of environmental documentation, funding, schedule urgency, potential benefits from streamlining, and potential for generating lessons transferable to other projects.

RESOLUTION FOR APPROVAL BY TPEAC:

The three pilot projects selected for permit reform under ESB 6188 of 2001 will be

1. SR 24, I-82 to Keyes road
2. The I-405/SR 167 Interchange
3. SR 104, the replacement of the east half of the
Hood Canal Bridge

ADOPTED by the TPEAC (November 14th, 2001).

Senator Dan Swecker, committee chairman

Result of vote

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	x			
Senator Prentice	x			
Rep. Ericksen	x			
Rep. Rockefeller				x
Department of Transportation	x			
Department of Ecology	x			
Department of Fish & Wildlife	x			
Association of Washington Cities	x			
Washington State Association of Counties	x			

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
December 12, 2001

FOR THE PURPOSE OF SUPPORTING THE CONTINUED FUNDING OF SSHIAP	TPEAC RESOLUTION NUMBER <u> 4 </u>
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On December 4, 2001, the Watershed Mitigation Sub-committee discussed best available information and data needed to do watershed characterization. The following key points were presented:

- Watershed characterization/assessment requires comprehensive consistent data sets;
- These comprehensive data sets are presently lacking;
- While ESB 6188 requires the use of best available information, the watershed sub-committee recognizes the need to look beyond existing information to build statewide data sets for improved decision-making;
- While all TPEAC sub-committees will need to coordinate data needs, a statewide salmon habitat database will be an important component of any watershed assessment tools developed by the Watershed Mitigation Sub-committee.
- SSHIAP is WDFW's salmon habitat database. This database has been completed for nearly all of Western Washington. However, due to budget limitations, the SSHIAP program will stop after January, 2002, without new sources of funding;
- While a number of statewide data sets will be needed to do watershed characterization work, there is an immediate need to secure additional funding or risk losing this opportunity to build a statewide salmon habitat database.

RESOLUTION FOR APPROVAL BY TPEAC:

The Watershed Mitigation Sub-committee approved the following recommendation to TPEAC: "SSHIAP is a logical repository for best available information for salmonids that should be funded now and that it is a valuable tool for achieving the vision of the watershed mitigation subcommittee".

ADOPTED by the TPEAC.

Senator Dan Swecker, committee chairman

Modifications to

resolution_____

Notes of discussion

Result of vote

Committee Member	Yes	No	Abstain	Absent
Senator Swecker				
Senator Prentice				
Rep. Ericksen				
Rep. Rockefeller				
Department of Transportation				
Department of Ecology				
Department of Fish & Wildlife				
Association of Washington Cities				
Washington State Association of Counties				

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
December 12, 2001

FOR THE PURPOSE OF CREATING A 6 TH TPEAC SUBCOMMITTEE ON PLANNING	TPEAC RESOLUTION NUMBER <u> 5 </u>
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It is the intent of this resolution to establish a TPEAC subcommittee on planning. The Planning Subcommittee will review the transportation planning process and make recommendations on environmental information and processes that promotes early identification of issues in the planning phase in preparation for NEPA/SEPA and permitting decisions. The intended outcome is to ensure that the principles of NEPA are considered early in the transportation planning process to expedite future regulatory decisions.

RESOLUTION FOR APPROVAL BY TPEAC:

The proposal to create a 6th TPEAC subcommittee on planning is attached and includes the following elements:

1. Options
2. Pros and Cons
3. Products
4. Cost
5. Justification
6. Relationship to other subcommittees
7. Proposed subcommittee participants
8. Proposed subcommittee schedule
9. Current relevant environmental related planning activities underway at WSDOT

ADOPTED by the TPEAC (December 12, 2001).

Senator Dan Swecker, committee chairman

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
December 12, 2001

FOR THE PURPOSE OF DEVELOPING A PERFORMANCE MEASUREMENT SYSTEM	TPEAC RESOLUTION NUMBER <u> 6 </u>
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Engrossed Senate Bill 6188 of 2001 formed the Transportation Permit Efficiency and Accountability Committee. It is the intent of this resolution to put in place a structure for measuring the performance of TPEAC and technical subcommittee actions. Changes and adjustments are likely to occur to the proposed structure; however, it is proposed that TPEAC agree on a general path forward for developing the "system" and mechanism for tracking and reporting progress.

RESOLUTION FOR APPROVAL BY TPEAC:

The performance measurement structure proposal is attached and includes the following elements:

1. Description
2. Drivers
3. Scope
4. Existing information to leverage
5. Basic structure
6. Next steps

ADOPTED by the TPEAC (January 9, 2002).

Senator Dan Swecker, Committee Chairman

Result of Vote for Resolution #6

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	X			
Senator Prentice				
Representative Ericksen	X			
Representative Rockefeller				
Department of Transportation	X			
Department of Ecology	X			
Department of Fish & Wildlife	X			
Association of Washington Cities				
Washington State Association of Counties	x			

ADOPTED by the TPEAC (January 9, 2002).

Senator Dan Swecker, Committee Chairman

Permit Streamlining Monitoring and Performance Measurement Structure

Description

Permit streamlining stretch goals have been established to communicate the intent of the Act and to drive the measurement of progress towards improving the performance of permitting. This paper provides an approach to develop the performance measurement structure and process.

Drivers

- Doug MacDonald's interest in accountability and success of the project
- TPEAC members' need to be accountable
- Legislators for a return on the investment
- Interested parties, environmental groups, public
- WSDOT contractor's need for consistency and certainty

Scope

- Determine qualitative and quantitative metrics by subcommittee aligned with the various goals
- Determine overall metrics and return on investment reporting mechanism for the project
- Identify the tools that will be used to track and measure performance
- Work with field staff to "test" tools for measuring and tracking performance
- Identify and assign individual responsibility for monitoring measurement of progress

Existing Information to Leverage

- TPEAC member critical success factors
- Ad hoc regional tracking information
- Current performance measures and methodologies and lessons learned

Basic Structure

- See following page

PERFORMANCE MEASUREMENT STRUCTURE

Goal	25% reduction in mitigation costs	50% increase in environmental benefit	60% of projects in programmatic	50% reduction in redesign	50% reduction in permit timing
<u>Definition</u> <u>Objective</u>	Reduce cost of mitigation site development through the use of watershed-based mitigation where practicable.	Where practicable, Provide greater benefit to the environment through the use of watershed-based data and Approaches methodologies	Identify projects and activities that lend themselves to Programmatic <u>or gen permits.</u> agreements, then prioritize and develop agreements	Identify factors causing projects to require redesign and develop action strategies to prevent those factors from occurring.	Reduce the time it takes to get from the ROD to permit issuance by 50% of original schedule
<u>Primary Indicator</u> <u>Performance Measure</u>	Dollars	# projects w/ benefits # acres, habitat, conserved or restored # of credits Cumulative benefits in watersheds <u>relative to onsite mitigation</u>	# of projects <u># agreements and general permits</u>	# of projects	Schedule
Baseline	Average annual cost for mitigation	Current env. Impacts or benefit <u>that exists today from project mitigation</u>	# of projects that utilize a similar process (i.e., JARPA)	# of projects <u>AND/OR</u> current cost of redesign	Existing project schedules for projects adopting streamlining measures
Subcommittees	One-Stop Permitting	Watershed Mitigation	Programmatic	Pilot Projects	Training, Compliance, and Reporting
Related Goals	#4 #5	#1 #2 #4 #5	#3 #4 #5	#1-5	#1,2,4,5 Compliance & Reporting #1-5 for Training

Subcommittee Related Goals

Subcommittee	Goal				
	1	2	3	4	5
One-stop Permitting	○	○	◐	◐	●
Watershed Mitigation	●	●	○	●	◐
Programmatic Permitting	◐	◐	●	◐	●
Pilot Projects	●	●	●	●	●
Compliance, Training, and Reporting	○	◐	◐	○	◐

- Strong influence
- ◐ Some influence
- Low/no influence

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
January 9, 2002

FOR THE PURPOSE OF TPEAC TO ENDORSE AND SUPPORT FUNDING OF RFEG INFRASTRUCTURE THAT ALLOWS RESTORATION PROJECT DEVELOPMENT	TPEAC RESOLUTION NUMBER <u>7</u>
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Engrossed Senate Bill 6188 of 2001 formed the Transportation Permit Efficiency and Accountability Committee. The Transportation Permit Efficiency and Accountability Committee (TPEAC) is required to develop a watershed based approach to environmental mitigation. The Act requires that TPEAC utilize existing watershed groups like Regional Fisheries Enhancement Groups (RFEGs) in order to identify and develop mitigation opportunities in the watersheds. RFEGs currently develop projects for potential funding and submit those lists to Lead Entities for prioritization and placement on their list of potential projects.

It is anticipated that TPEAC would be able to utilize the habitat project lists to fund projects on the list that have not been funded by the Salmon Recovery Funding Board, and that may be appropriate mitigation for on-site impacts of transportation projects.

TPEAC recognizes that support for RFEG infrastructure will ensure that local Lead Entity habitat restoration lists are fully developed and that RFEG activities continue to include other statutorily required activities such as building landowner support, volunteer recruitment, public outreach and etc.

Both the SRFB and TPEAC therefore, can benefit from increasing the number of projects that are submitted to the Lead Entity for review and approval for inclusion in the habitat restoration project lists.

RESOLUTION FOR APPROVAL BY TPEAC:

WHEREAS, ESB 6188,s intent is to increase predictability, certainty, and consistently in transportation and regulatory actions.

WHEREAS, ESB 6188's intent is to reduce delays and costs of actions.

WHEREAS, ESB 6188's intent is to increase environmental benefits of actions.

WHEREAS, ESB 6188's intent is to utilize best available existing information.

WHEREAS, JLARC recommends agencies to develop methodologies...consistent with watershed based approaches.

WHEREAS, JLARC recommends agencies to use the best available information from watershed planning efforts, lead entities, RFEGs... to determine potential mitigation requirements for projects within a watershed.

WHEREAS, JLARC states that there are not adequate results from environmental investments and without strong and comprehensive output and outcome measures, positive environmental results can only be presumed and not proved.

WHEREAS, RFEGs provide substantiated, comprehensive output and outcome measures.

WHEREAS, RFEGs provide positive environmental results.

WHEREAS, RFEGs provide the framework that allows citizens to participate in salmon recovery,

WHEREAS, RFEGs are fully involved in the Environmental Investment Strategy through identification of projects, building partnerships, leveraging funds, collecting watershed data and providing critical coordination for a sustainable strategy.

NOW, THEREFORE BE IT RESOLVED, that the Transportation Permit Efficiency and Accountability Committee approves this resolution endorsing and supporting the Regional Fisheries Enhancement Groups infrastructure funding needs to the congress, legislature and resource agencies of Washington State in the amount of \$1,400,000 annually.

ADOPTED by the TPEAC (January 9, 2002).

Senator Dan Swecker, committee chairman

Modifications to
resolution_____

Notes of discussion

Result of Vote

Committee Member	Yes	No	Abstain	Absent
Senator Swecker				
Senator Prentice				
Rep. Ericksen				
Rep. Rockefeller				
Department of Transportation				
Department of Ecology				
Department of Fish & Wildlife				
Association of Washington Cities				
Washington State Association of Counties				

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)

March 20, 2002

FOR A ONE-STOP PERMITTING PROCESS	TPEAC RESOLUTION NUMBER <u>8</u>
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Engrossed Senate Bill 6188 of 2001 formed the Transportation Permit Efficiency and Accountability Committee. It is the intent of this resolution to specify a one-stop permitting process for transportation projects under the jurisdictional management of the Washington State Department of Transportation. Changes and adjustments are likely to occur to the proposed process; however, it is proposed that TPEAC agree on this process so that a one-stop process can be implemented.

RESOLUTION FOR APPROVAL BY TPEAC:

The one stop permitting process provides an efficient and effective methodology to facilitate transportation permitting in the state of Washington. The one-stop process, herein attached, provides for creation of an Inter-disciplinary Team (ID) proposal to coordinate the preparation and issuance of permits respective of each permitting agencies mandates and statutory requirements. The one-stop process attached is herein adopted by

ADOPTED, One stop permitting process by the TPEAC (March 20, 2002).

Senator Dan Swecker, committee chairman

Result of Vote

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	X			
Senator Prentice	X			
Rep. Ericksen				X
Rep. Rockefeller	X			
Department of Transportation	X			
Department of Ecology	X			
Department of Fish & Wildlife	X			
Association of Washington Cities	X			
Washington State Association of Counties	X			

Definitions

Unified Permit Application: a binder which contains all the permit applications and supporting documents for a project, and is maintained by WSDOT.

Unified Permit Document: a binder which contains all the permit applications, supporting documents, and issued permits for a project, and is maintained by WSDOT.

One Stop Permitting

Step1. Project Definition / Interdisciplinary Teams

Appropriate agencies will be contacted at the time of Project Definition for the formation of Interdisciplinary (ID) Teams for projects not covered by programmatic permits. ID Teams of WSDOT, permitting/resource agency, affected tribes, and private or public sector discipline experts (including engineers) will be chartered and convened to: define the project's impacts; elicit input from the agencies and others for the level of detail, appropriate avoidance, minimization and type and place of mitigation and conditions for the permit; set a master timeline and schedule; and address agency resource needs, consistent with Chapter 47.06C RCW. The ID Team will remain in existence from Project Definition into Design through Plans Specifications & Estimates (PS&E) and construction, in order to influence and respond to design and construction changes.

The ID Team will develop a charter to address such items as permitting and meeting schedules, communication protocol, and other coordination issues. The time period for Step 1 could range from one meeting to in excess of one year, depending upon the complexity of the project.

Step 2. Draft Unified Permit Application (WSDOT Prepared)

This collaborative effort would then be reflected in a unified permit application drafted by WSDOT and submitted to the agencies for simultaneous review and concurrence.

Step 3.

The unified permit application will be submitted to the agencies for independent review and to initiate public involvement processes in conformity with applicable statutes, regulations, and policies. Agencies will conduct their public review processes concurrently, including unified public hearings, to the extent possible. Upon submission to the agencies, the permit application is a matter of public record and is available for public review through WSDOT.

Step 4.

The IDT will be reconvened to go over the comments. Each agency will follow their own procedures and work with the applicant to revise the permit application.

Norming to Performing:
Programmatics Subcommittee Report to TPEAC
“Final TPEAC Report with Addendum”
April 2002

Report Outline

- I. Purpose and Vision**
- II. Background**
- III. Issues with Current Process**
- IV. Alternative Approaches**
 - 1. Proceed with a variation of the current approach
 - 2. Develop a Corps Regional General Permit (CWA Section 404)
 - 3. Develop a General Permit under Phase 2 Section 402 CWA
 - 4. Develop a pilot project.
- V. Subcommittee's Recommendation**
- VI. Benefits of the Recommended Approach**
- VII. Issues, Cost, Benefit**
- VIII. Future Directions**

Figures

Figure 1. Approach to developing programmatic permits

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Norming to Performing:

Programmatics Subcommittee Report to TPEAC

March 2002

I. Purpose and Vision

This report summarizes the findings of the Programmatic Subcommittee for the Transportation Permit Efficiency and Accountability Committee (TPEAC). It presents background information, issues, alternatives, a recommended approach, and the benefits of the recommended approach. The purpose of developing a programmatic approach is to reduce the time and cost of permitting routine activities while protecting or enhancing the environment. The Vision Statement for the Programmatic Subcommittee is:

Develop programmatic approaches that expedite project delivery, reduce project cost and protect and enhance environmental conditions through process efficiencies. Public involvement is an essential component for programmatic permit approaches.

A programmatic approach will strive to establish agreement among regulatory agencies on a set of common environmental conditions for routine Washington State Department of Transportation (WSDOT) activities. Such activities may include maintenance, repair, preservation, replacement, or minor capital improvements. In addition to establishing multi-agency conditions, a programmatic approach may also result in one or more general permits being issued for WSDOT activities by those agencies with jurisdiction.

A programmatic approach will reduce the time and the cost of permit acquisition for project proponents, as well as reduce the environmental review and processing time for regulatory agencies. This is expected to free staff resources by transferring workload from reviewing “routine and low-impact” activities to other projects with more complex environmental issues, which will accelerate review time for all projects and increase the overall net environmental benefit.

II. Background

Approximately six agencies from local, state, and federal levels have jurisdiction over aquatic habitat and transportation related activities in Washington State. One challenge in facing the timely delivery of transportation projects is anticipating and implementing multiple, and sometimes conflicting environmental standards, project conditions, and procedures required for

permit approvals. The discussion below illustrates the interrelationship between environmental standards, conditions, and procedures and how they relate to the overall permit process.

Environmental standards are typically established through administrative law within individual resource agencies. For example, Ecology establishes environmental standards for water quality protection under Chapter 173-201A-WAC and sets forth project specific conditions as part of permit approval pursuant to those standards. Similarly, Washington Department of Fish and Wildlife (WDFW) establishes environmental standards for the protection of fish life under Ch. 77.5-RCW and also sets forth project specific conditions as part of permit approval pursuant to those standards. It is not the intent of the subcommittee to recommend changes to environmental standards established by law.

In some cases, permit conditions for the same project are different and conflicting between jurisdictional agencies. Some examples of how this inconsistency could play out are with bridge removal and bridge scour repair projects. In the case of bridge removal, WDFW might allow components of the bridge structure to temporarily enter the receiving water conditioned upon timing windows for the protection of fish life. Contrarily, Ecology may not allow any part of the bridge structure to enter receiving waters as a permit condition to meet the Agency's water quality standards. In the case of bridge scour repair, WDFW might allow the placement of rock rip-rap for bridge pier protection under the condition that impacts are compensated through mitigation where National Marine Fisheries Service (NMFS) typically recommends the use of bioengineering instead of rip rap. In both examples, staff time spent shuttle negotiating project conditions between agencies results in increased time and cost during project design. The Programmatic Subcommittee's recommended approach will directly address the issue of conflicting project conditions.

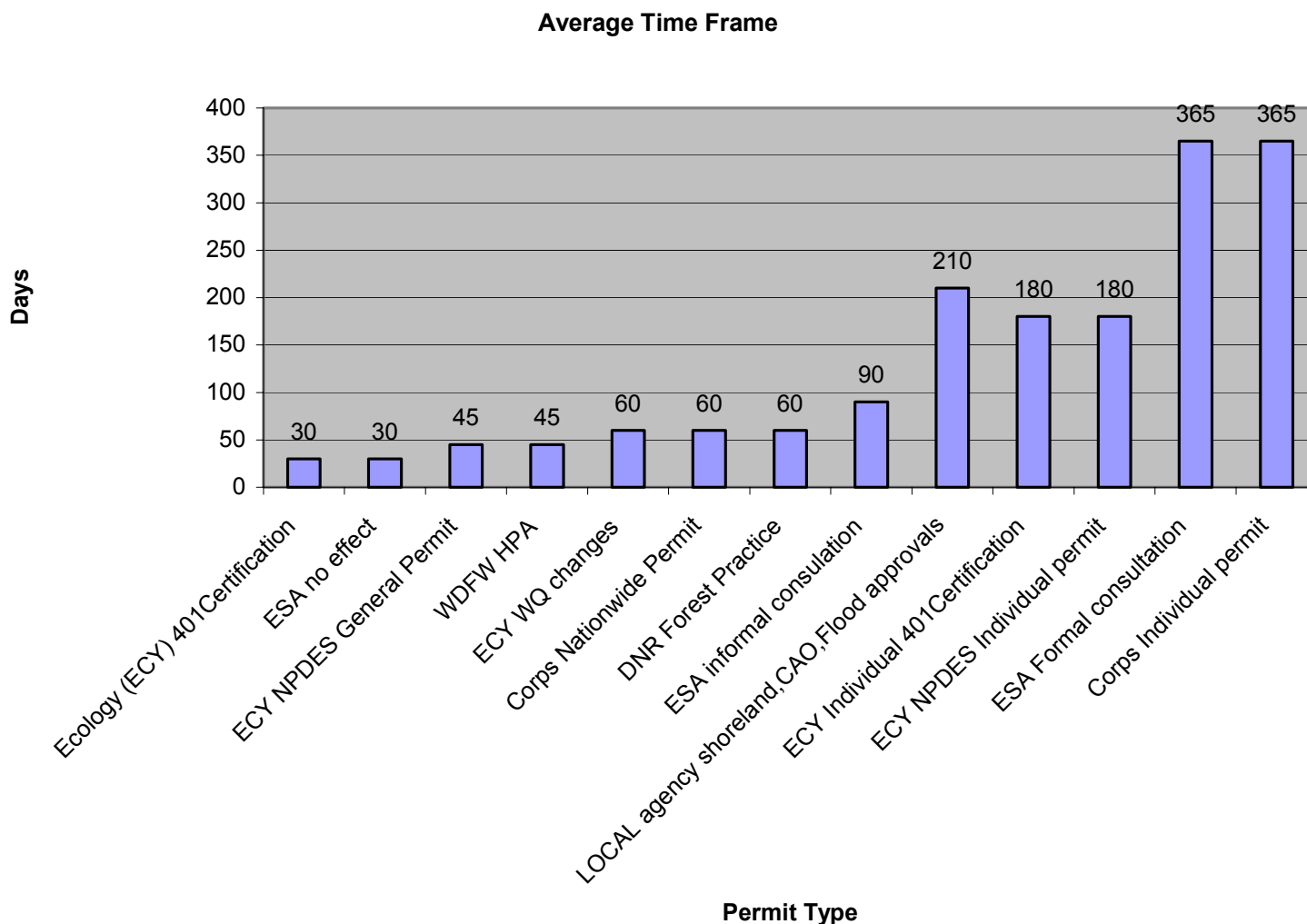
Permit review and approval procedures are often different between jurisdictional agencies. For example, where a county may require detailed levels of analysis and project information and a lengthy review time for a bank stabilization project, WDFW review might require a different level of analysis and shorter review time frame for the same activity. Again, this is an example of how the amount and type of information needed for project review is inconsistent between agencies with jurisdiction over the same activity. The Subcommittee's recommended approach addresses this issue through step 5 where multi-agency norming groups are formed to establish common levels of information and analysis necessary for project approval.

Environmental procedures for obtaining project approval typically include:

1. Providing adequate information for complete application.
2. Timeline to review information to render a decision.

3. Rendering a decision with conditions to ensure compliance with applicable environmental standards.

The figure below describes the average time frame associated with permit



*Source: CH2MHILL

The diagram shows that the most time intensive permit acquisition procedures for WSDOT activities tend to occur during local agency and Endangered Species Act (ESA) related reviews. Very few WSDOT projects require an individual Corps or NPDES permit. If the programmatic approach will expedite project delivery and reduce project cost, then local agencies, and the federal services (United States Fish and Wildlife Service (USFWS) and NMFS) must be included in this approach. While the subcommittee's recommends inclusion of ESA, there is concern about how to include local agencies within the recommended approach. This issue will be discussed later in the report.

In recent years, WSDOT has engaged in developing programmatic coverage for various transportation-related activities by working directly with individual resource agencies to develop programmatics for certain types or groups of activities. Examples of programmatic coverage currently in place include programmatic biological assessments (BAs) for ESA compliance, general Hydraulic Project Approvals (HPAs), National Pollutant Discharge Elimination System (NPDES) Phase I permits, nationwide permits, and other agency implementing agreements for specific or groups of activities such as culvert repair or replacement, ditch maintenance, beaver dam removal and bridge scour repair. Approvals under development include Western Washington Programmatic BA and Aquatic Programmatic BA with the Services. Research by the subcommittee found that no programmatic approach has been developed where all jurisdictional agencies agree on common conditions for a specific activity that will lead to project approval by each agency.

III. Issues with Current Process

In pursuing programmatic coverage under the current process (e.g. seeking individual programmatics from each agency), the Subcommittee has identified two significant issues:

1. Since project conditions are negotiated with an individual agency, conditions often vary between agencies for the each activity. For example, the use of rock riprap is much more restrictive in WSDOT's Programmatic BA compared with the standard being negotiated in the general HPA.
2. Pursuing programmatic coverage under the current process is time-consuming due to the complexity of the issues, lack of dedicated staff and other resources, and the numerous jurisdictions involved. Based on ongoing programmatic efforts, the subcommittee determined that it often takes more than a year to develop programmatic coverage for each activity with each agency. For example, a WSDOT programmatic BA has been under development for over three years, due to lack of dedicated staff at NMFS and USFWS.

While these problems are inherent with the current approach, it is still an improvement over applying individually each time the same type of activity occurs.

IV. Alternative Approaches

The subcommittee identified three alternative programmatic approaches and summarized the benefits and constraints of each approach. The alternatives identified are:

1. Proceed with a variation of the current approach of pursuing individual agency programmatic coverage while trying to integrate multi-agency review and approval of environmental conditions.
2. Develop a Corps Regional General Permit (CWA Section 404).
3. Develop a General Permit under Phase Municipal Stormwater NPDES Permits (CWA Section 402)

Alternative 1. Proceed with a variation of the current approach

The subcommittee recommends the development of the programmatic approach using the first alternative. This approach is illustrated in Figure 1 and can be used for all activities for which WSDOT is seeking approval, and can be used by any of the jurisdictional regulatory agencies. It builds upon the existing approach of pursuing programmatic coverage with each individual resource agency by attempting to develop “normed” or consistent conditions for each activity that would meet the needs of all agencies involved.

One constraint with this approach is that it may be difficult to attain consistent standards for all agencies and all the identified activities. There may be a limited number of conditions that can be “normed.”

The programmatic subcommittee has already accomplished steps 1 through 4 (shown in figure 1), which recommends a list of nine WSDOT high priority activities to proceed through steps 5 and 6 (see figure 1). Step 5 is a key step that creates a multi-agency technical norming group tasked to develop common conditions (e.g. environmental thresholds, construction practices, etc.), level of analysis and type of information necessary for permit approval, and mitigation that will lead to compliance with jurisdictional agencies. It will increase certainty and predictability when resource agencies review WSDOT permits, thereby accelerating transportation project delivery, improving environmental compliance, and reducing costs. Members of the technical norming group should be senior level staff dedicated to participating in the norming group. The norming group shall strategize how to include and create programmatic coverage with local agencies.

Following the development of multi-agency conditions for individual or grouped activities, Step 6 includes the development and the implementation of programmatic approval. This will be accomplished utilizing existing procedures within individual agencies with jurisdiction. These procedures will offer opportunity for public comment on the common conditions established by the norming group. For example, following the development of multi-agency standards for bridge painting and cleaning, programmatic approval will be sought under a general HPA with WDFW, programmatic BA with USFWS and NMFS, and general permit approval with Ecology. Programmatic permit conditions would be evaluated yearly or biannually for efficacy of environmental protection, time savings, and project delivery and changes made as necessary to improve their performance.

Alternative 2- Develop a Corps Regional General Permit (Clean Water Act (CWA) Section 404)

The Corps of Engineers is working with federal agencies to develop regional general permits for activities covered under Section 404 of the Clean Water Act. Section 404 regulates dredging and filling wetlands. Additional activities can be covered because when federal actions may impact listed species, ESA requires federal agency consultation. This approach offers a mechanism to coordinate state and federal agency permit conditions, which is a substantial benefit to deliver projects in a timely manner. Conditions and standards developed under this approach would likely provide helpful guidance to agencies developing programmatic coverage under different approaches.

The benefits of this approach include:

- Multiple agency review at the state and federal level in the process of setting conditions based on standards.
- Activities that meet the requirements of a regional corps permit would also meet requirements of ESA, Ecology, and WDFW if appropriate conditions were inserted into the permit.
- Staff resource and costs for the development of a regional general permit could be borne by the Corps, but DOT would accrue the same benefits of the regional general as the rest of the regulated public for that activity type.

The constraints to this approach include:

- Coverage would only be provided to activities under 404 jurisdiction. Not all WSDOT activities fall under 404 jurisdiction, therefore, some activities wouldn't be covered.
- Programmatic type coverage is already provided under the current nationwide permit program for almost all WSDOT activities that fall under 404 jurisdiction. Any development of a Corps regional general permit would have to demonstrate better efficiency for permitting activities than the current nationwide permit coverage.
- Development of a Regional General Corps Permit may be time consuming and entailed with bureaucratic procedures.

Alternative 3- Develop a General Permit under Phase II Municipal Stormwater NPDES Permits (CWA Section 402)

The Environmental Protection Agency (EPA) regulations require the Department of Ecology to issue NPDES permits to state and local jurisdictions that discharge stormwater to waters of the State. NPDES Phase I covers 1/3 of the state, while Phase II will cover an addition 1/3 after implementation. Under Phase II of these regulations, permits must be issued to jurisdictions with less than 100,000 population or are located in urban areas. Jurisdictions must apply for coverage by March 2003. The Department of Ecology must develop implementing regulations prior to March 2003. The Phase II regulations could be expanded to cover any activity that discharges pollutants or alters the flow

of waters of the State. Activities that require permits may potentially discharge pollutants or alter stormwater flows by disturbing or increasing the percentage of impervious surfaces. So most of WSDOT's activities that require permits could be covered by a Phase II municipal stormwater permit, since the NPDES permit can be designed to cover both operation and maintenance of facilities. This approach could offer the benefit of covering a wide range of activities. A second benefit of entering into such an approach at this time is that early engagement for a known future requirement affords ample time to work out difficult permitting issues.

One limitation of this approach is that Ecology's permit would then cover activities that it does not now regulate or have the technical expertise to address. There may be resistance to this. Another limitation is that it would require a long time to negotiate all of the issues and conditions and a great deal of staff commitment. Ecology does not have the staff available to carry forward this approach. Because of the range of activities potentially covered and the geographic diversity of the State, this approach would be particularly challenging. To address these challenges, it might be possible to develop several general permits covering different activities or different geographic areas of the State.

FIGURE 1: Approach to Developing Programmatic Permits

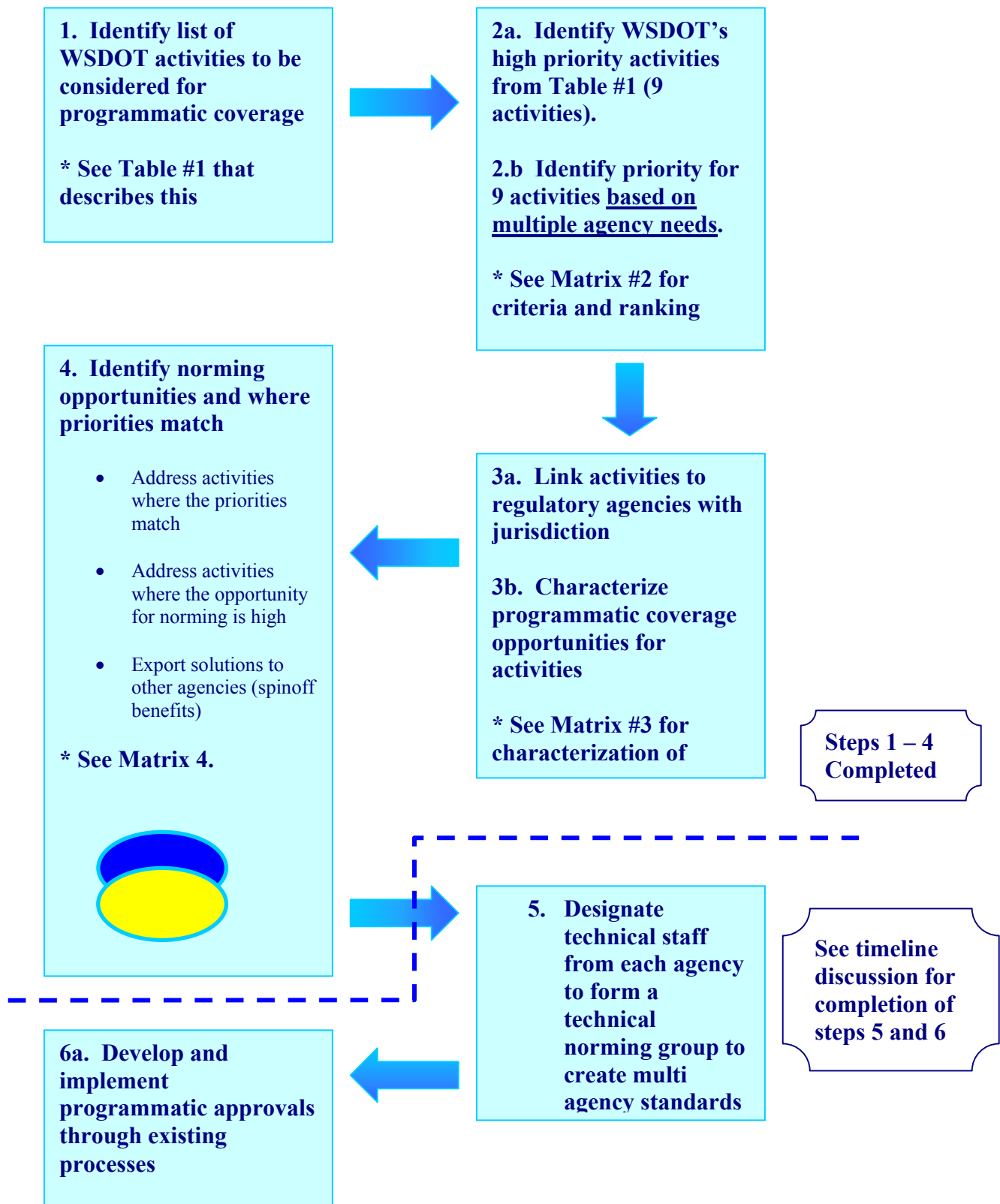


Table #1: WSDOT Activities Suitable for Programmatic Coverage

(Based on routine and low impact activities)

<p><u>Maintenance Work</u></p> <p>Roadway Maintenance and Operations</p> <ul style="list-style-type: none"> Pavement Patching & Repair Crack Sealing Shoulder Maintenance Erosion Repair Grading Sweeping & Cleaning Misc. Roadway Maintenance Grading Gravel Road Repair Curbs <p>Drainage Maintenance & Slope Repair</p> <ul style="list-style-type: none"> Maintain Ditches Channel Maintenance Beaver Dam Removal Streambank Stabilization Maintain Culverts Maintain Catch Basins & Inlets Maintain Detention/Retention Basins Slope Repair Erosion Repair Maintain Fish Passage Facilities <p>Roadside and Landscape Maintenance</p> <ul style="list-style-type: none"> Noxious Weed Control Nuisance Vegetation Control Control Vegetation Obstructions <p>Bridge & Urban Tunnel Maint. & Operation</p> <ul style="list-style-type: none"> Bridge Deck Repair Repaving and Hydrodemolition Structural Bridge Repair Rail Repair Scour Repair Pile Driving (state-wide) Timber Bridge Repair (pier cap replcm) Bridge Cleaning Washing (Structure and Drains) Painting Miscellaneous Bridge Maintenance LWD Debris Removal Movable and Floating Bridges <p>Snow & Ice Control</p> <ul style="list-style-type: none"> Deicing <p>Traffic Services</p> <ul style="list-style-type: none"> Pavement Stripping and Maintenance Guardrail Maintenance 	<p><u>Maintenance Work (Cont.)</u></p> <p>Emergency Response and 3rd Party Damages</p> <ul style="list-style-type: none"> 3rd Party Damages Disaster Maintenance Hazardous Materials Incidence Response <p><u>Traffic Operations</u></p> <p><u>Preservation</u></p> <p>Pavements</p> <ul style="list-style-type: none"> Repave Highways Restore Safety Features <p>Structures</p> <ul style="list-style-type: none"> Replace Bridges & Structures Culvert Replacement Pier Construction Bridge Painting Seismic Retrofit <p>Other Facilities</p> <ul style="list-style-type: none"> Major Drainage and Electrical Stabilize Known Unstable Slopes <p><u>Improvements</u></p> <p>Environmental Retrofits</p> <ul style="list-style-type: none"> Stormwater Retrofits Fish Passage Barrier Removal <p><u>Other</u></p> <p>Emergency Flood Control Work</p> <p>Flood Hazard Reduction Work</p> <p>Temporary Structures & Fills</p> <p>Soil Test Boring (state-wide)</p> <p><u>Washington State Ferries</u></p> <p>Soil Test Boring (also see above)</p> <p>Buoy Navigation</p> <p>Pile Driving and Removal (also see above)</p> <p>Fueling "the bull" on the Pier</p> <p>Repair, maintenance, and preservation of structures</p> <p>Debris Removal</p>
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For more detailed matrix, see full list of activities (excel file 'Permit Streamlining Matrix Empty.xls'). It is also available on the CH2M Hill Website under the Programmatic Subcommittee library under 'WSDOT Programmatic Opportunity Matrix'.

TABLE #2 Agency Priorities for Top 9 High Priority WSDOT Activities

		RESOURCE AGENCY**					
WSDOT's List of High Priority Activities and Characterization of Frequency*	Type of WSDOT Activity	WDFW	ECY	DNR	Corps	USFWS	NMFS
Ditch, channel maintenance: Over 7,000 miles of ditches	M	High	Low	Low	Low	Low	Med
Bridge painting and washing: 19 projects for biennium	M P	Med	Low	Low	Low	Low	Low
Culvert maintenance: Over 38,000 culverts in the state	M	High	Low	High	High	Med	High
Maintain existing fish passage facilities: Under I-4 environmental retrofit program, 15 fish barriers removed during 99-01 biennium, benefitting 50	M P	High	Low	Low	High	Med	High
Bridge deck repair: No data	C P	Low	Low	Low	Med	Low	Med
Bridge scour repair: 24 projects for biennium	M P	High	High	High	High	High	Med
Bridge removal: 47 projects for biennium	C M	Med?			High	Med	Med
Culvert replacement: Over 38,000 culverts statewide	M	High?	Med	High	High	High	High
Streambank stabilization: No data	M P	Low?	High	?	Med	High	Low

*WSDOT priorities based on frequency of activity, man hours to process permit, and # of approvals

**Resource Agency priorities based on multiple criteria such as conservation value, staff hours, existing regulatory authority or responsibility, availability of existing programs, etc.

WSDOT Types of Activities: C = Capital Facilities; M = Maintenance; P = Preservation

TABLE #3 Characterize Programmatic Coverage for Activities		High Priority WSDOT Activities From Matrix 2								
Agency	Programmatic Coverage Types: In Place or Under Development	Bridge removal	Ditch, channel maintenance	Bridge painting and washing	Culvert maintenance	Maintain fish passage facilities	Bridge deck repair	Bridge scour repair	Culvert replacement	Streambank stabilization
ESA "Services"	Olympic Region PBA covers terrestrial, aquatic and plan species USFWS (Document in use)	X	X	X	X		X	X	Not Bull Trout	X ^{some}
	Western WA PBA covers terrestrial, aquatic and plant species for USFWS (Document under development)	X	X	X	X		X	*	X	X ^{some}
	Eastern WA PBA covers terrestrial, aquatic and plant species for USFWS (Document under development)	X	X	X	X		X	X [*]	X	X ^{some}
	Aquatic PBA covers all salmonid species under NMFS jurisdiction (Document under development)		X	X	X ^{***?}	X ^{***?}		***? *	***?	some [*]
	4(d) Maintenance Manual covers routine maintenance activities for compliance under ESA for NMFS (Document under development)		X	X	X	X	X	X	X	X
USACE	Corps Regional Permits for Specific Transportation Activities (Document not under development)	-----								
	Corps Programmatic Permit for specific activities - provides coverage under ESA (Document in use)	-----								
	Nation Wide Permits (Process in Place)	NJ	NWP 3	NJ	NWP 3	NWP 3	NJ	NWP 3/13	NWP 3	NWP 3/13
WDFW	General HPAs (Some general permits currently in use)									
Ecology	Surface Water Quality Standards Implementing Agreement (Document currently in use)	NEED				NEED	NEED		NEED	
	Administrative Order General Permit Coverage	-----								
	NPDES Phase 1 Municipal Stormwater Permit for WSDOT (Document in use)	-----								
	NPDES general permit for stormwater associated with construction activities (Document in use)	DOES NOT APPLY TO ACTIVITIES ABOVE								
	NPDES Phase II Municipal Stormwater permit (Document not under development yet)									
Local Agency	Clarification of exempt activities under SMA, CAO, SEPA	NEED								
Other	Other multi-agency policy agreements that establish common environmental thresholds and standards.	-----								
LEGEND: X = Streamlining Tool Addressing Activity Currently Exists Need = Streamlining tool is needed to address activity Need ? = Uncertain of Need for streamlining tool No Need = Streamlining tool is not needed * = 100 cu yds ** = < 100 cu yds *** = Not WSDOT North Central Region										

TABLE #4 Priority Ranking, Opportunity, and Final Order of Recommendation to Norming Group

WSDOT Activity List from Table #2	*Multi-agency Priority	**Opportunity to Norm	Order
Culvert maintenance	High	High	1
Bridge scour repair	High	Med	2
Culvert replacement	High	Med	3
Bridge removal	Med	High	4
Maintain fish passage facilities	Med	High	5
Streambank stabilization	Med	Low	6
Bridge deck repair	Low	High	7
Bridge painting and washing	Low	High	8
Ditch, channel maintenance	Low	High	9

*Multi-agency priority is based on the average priority value from Table #2

**Opportunity to norm is based on Table #3 information: 1.) Are programmatic standards already developed? 2.) Are standards in agreement between programmatic documents? 3.) Are programmatic standards under development, if so, what is the time frame or critical issues for completion? 4.) If programmatic standards are not developed or under development, is there anticipated disagreement or inconsistency between resource agency standards?

V. Subcommittee's Recommendation

The committee has recommended pursuing Alternative 1 as the overall programmatic approach. The other alternatives may also be considered as suitable approaches for programmatic coverage in the future as well.

VI. Benefits of the Recommended Approach

Because several agencies regulate different aspects of the aquatic environment, which can result in conflicting conditions on permits, pursuing the alternative 1 approach is expected to result in the following benefits:

- Create common environmental conditions between multiple agencies
- Create common levels of analysis and information necessary for project approval
- Shorten project approval time frames through the development of programmatic
- Promote consistent application of environmental conditions that will protect the environment
- Allow the transfer of workload for staff time spent processing these permits to other permits with more complex environmental issues
- Create a spin-off benefit that can be utilized with other entities such as local jurisdictions that are involved with similar activities

This approach does not negatively affect current WSDOT and resource agency efforts in developing programmatic permits but improves upon them. Each approach will create multi-agency agreement on conditions for selected WSDOT activities.

VII. Issues, Cost, Benefit

One issue with estimating cost benefit is that WSDOT and some regulatory agencies do not have an accounting system to track permit costs. Thus any cost savings or benefits of programmatic coverage are only estimates. Developing an accounting system that allows staff to record time by project and activity would increase accountability and would allow WSDOT to develop more accurate estimates in the future. There is also no way of measuring increased environmental benefit from this approach as there is no baseline information available on how well or even if WSDOT is currently meeting mitigation goals for these projects

As shown in Figure 2, the time it will take to accomplish Step 5 (create a multi-agency technical norming team and establish common environmental conditions for the first five priority activities from Table #4 which include culvert maintenance, bridge scour repair, culvert replacement, bridge removal, and maintenance of fish passage facilities) is relative to whether agencies are

dealing with current staff levels or staff levels equivalent to one FTE per agency dedicated 100% to the programmatic approach. The programmatic subcommittee anticipates the following timelines for each staffing level situation:

- Current staff level: 3-5 or more years
- One dedicated FTE for each agency: 18-24 months

The estimate at current staff levels is based on information regarding the time to develop previous programmatic permit agreements. The time frame for the one dedicated FTE situation is determined by the subcommittee with the understanding that senior level staff would be dedicated to this project.

The time frame to complete step 6 (develop programmatic approval) is dependent upon permit process procedures and associated time lines within individual agencies. For example, WDFW has specific time frames and procedures associated with issuing general HPA's. Other agencies at state and federal levels also have different procedures for processing programmatic approvals. The subcommittee felt that programmatic approval could be obtained for all agencies within 6 months following completion of step 5.

The subcommittee believes that at a minimum, a great benefit would result from completion of step 5 through the development of multi-agency conditions. Making common conditions and procedures available to the applicant will benefit project delivery, increase the certainty and predictability during agency permit reviews, and reduce project cost by providing the applicant with up-front information on how to design the project and eliminate the need for negotiating conditions between agencies. The environment will be better served through consistent application of project conditions established through the norming groups, and by shifting staff time to more complex projects.

VIII. Future Directions

It is expected that the programmatic subcommittee will meet periodically to discuss the progress of the norming workgroups and any issues that may need to be elevated.

Programmatic coverage will require periodic updating as regulations change and new scientific information becomes available. This will require an on-going staff effort but the effort should be greatly reduced after permit issuance. Each time agreement is reached on conditions for programmatic coverage, the process should get easier and faster, as the respective staff increase their experience and comfort level with their peers and the variety of regulatory requirements.

Outstanding issues:

There will be a future need to develop a protocol to measure the performance of the recommended programmatic approach.

There will be a future need to address how to include and streamline local agency permit processes within the recommended programmatic approach.

Glossary of terms:

Standards: Legal standards each agency has to meet to fulfill their legislative mandate. For state agencies these “standards” are in authorizing RCW and implementing WAC. For federal agencies these are in the CFR.

Conditions: These can be a combination of standards from WAC for some agencies and maybe Best Management Practices (BMPs) developed to achieve standards in the authorizing RCW or federal law.

Norming: The process of developing a set of conditions, which all agencies with jurisdiction would agree to, for each of the identified activities which the Programmatic subcommittee has recommended for this programmatic approach.

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
April 10, 2002

FOR THE PURPOSE OF APPROVING THE PROGRAMMATIC SUB-COMMITTEE'S RECOMMENDED STAFF SCENARIO FOR STEPS 5 AND 6 OF THE PROGRAMMATIC APPROACH	TPEAC RESOLUTION NUMBER _11_____
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It is the intent of this resolution to put adopt the programmatic subcommittee's addendum to Section VII of the Report, which identifies the recommended staffing scenario to accomplish steps 5 and 6 of the report.

RESOLUTION FOR APPROVAL BY TPEAC:

TPEAC believes completion of steps 5 and 6 of the Programmatic Subcommittee' April 10, 2002 report will promote a new way of doing business built on the following principles:

- i. Incorporates the "process improvement" concept by engaging all stakeholders to reveal problems, elevate issues, and bring forth solutions.
 - ii. Builds trust and commitment between agencies
 - iii. Accelerates permit processes and minimize impacts to the environment.
- b. TPEAC recommends that each jurisdictional agency dedicate 75-100% of one staff person's time to participate in steps 5 and 6 of the programmatic approach. The key agencies include WSDOT, WDFW, Ecology, the Corps, USFWS, and NMFS. Participation from local governments will also be sought where practicable. This commitment will result in long-term benefits by reducing the time frame for transportation project delivery and staff time spent processing permits.
- c. The participating staff should be senior level technical staff. The subcommittee recommends that participating staff have experience in aquatic habitat impact assessment, environmental policy development, experience with process improvement, and understands and can speak for agency policy.
- d. TPEAC directs that the norming workgroup strategize a method for addressing all of the activities. This may include grouping similar activities together, soliciting support from technical staff who have

special knowledge over pertinent issues, and determining at what level norming will occur (e.g. development of guidelines, common conditions, or programmatic permit approval).

- e. To demonstrate performance and accountability, the Programmatic Subcommittee will report to TPEAC on a quarterly basis the progress of its efforts. Success may result in:
 - i. Identification of activities that are actually exempt from agency jurisdiction or permit requirements
 - ii. Identify common levels of information and levels of analysis necessary for project review
 - iii. Identify common environmental conditions for project approval
 - iv. Identify common methods for determining mitigation requirements for project approval
 - v. Development of programmatic permit approvals

ADOPTED by the TPEAC (April 10, 2002).

Senator Dan Swecker, committee chairman

Addendum to Section VII of the Programmatic Report

Purpose: The purpose of this addendum is to further clarify and identify the resource needs and time expectation to complete steps 5 and 6 of the programmatic approach. This addendum will contribute to a second resolution by the programmatic subcommittee for the TPEAC to vote on at the April 10th meeting.

The programmatic subcommittee is recommending that TPEAC approve the following scenario that addresses staff resources for completing steps 5 and 6 of the programmatic approach:

- a. The Programmatic Subcommittee believes that this effort will result in a new way of doing business that is built on the following principles:
 - i. Incorporates the “process improvement” concept by engaging all stakeholders to reveal problems, elevate issues, and bring forth solutions.
 - ii. Builds trust and commitment between agencies
 - iii. Accelerates permit processes and minimize impacts to the environment.
- b. The Subcommittee recommends that each jurisdictional agency dedicate 75-100% of one staff person’s time to participate in steps 5 and 6 of the programmatic approach. The key agencies include WSDOT, WDFW, Ecology, the Corps, USFWS, and NMFS. This commitment will result in long-term benefits by reducing the time frame for transportation project delivery and staff time spent processing permits.
- c. The participating staff should be senior level technical staff. The subcommittee recommends that participating staff have experience in aquatic habitat impact assessment, environmental policy development, experience with process improvement, and understands and can speak for agency policy.
- d. The Programmatic Subcommittee recommends that the norming workgroup strategize a method for addressing all of the activities. This may include grouping similar activities together, soliciting support from technical staff who have special knowledge over pertinent issues, and determining at what level norming will occur (e.g. development of guidelines, common conditions, or programmatic permit approval).
- e. To demonstrate performance and accountability, the norming workgroup will report to TPEAC on a quarterly basis the progress of their efforts. Success of the norming workgroup may result in the following ways:
 - i. Identification of activities that are actually exempt from agency jurisdiction or permit requirements
 - ii. Identify common levels of information and levels of analysis necessary for project review
 - iii. Identify common environmental conditions for project approval
 - iv. Identify common methods for determining mitigation requirements for project approval
- f. TPEAC may conclude the effort upon the finding that the workgroup is not performing effectively.

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
April 10, 2002

FOR THE PURPOSE OF APPROVING THE WATERSHED SUB-COMMITTEE'S RECOMMENDED APPROACH FOR DEVELOPING WATERSHED-BASED MITIGATION	TPEAC RESOLUTION NUMBER _10_____
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Engrossed Senate Bill 6188 of 2001 formed the Transportation Permit Efficiency and Accountability Committee. It sets forth a requirement to develop a watershed approach to environmental mitigation. The approach shall include the following activities:

- (a) "develop methodologies for analyzing environmental impacts and applying compensatory mitigation...
- (b) assess models to collate and access watershed data...
- (c) use existing best available information from watershed planning efforts..."

It is the intent of this resolution to approve the proposed approach and timetable to watershed based compensatory mitigation as recommended by the watershed sub-committee.

RESOLUTION FOR APPROVAL BY TPEAC:

TPEAC finds that the recommended overall approach to watershed-based compensatory mitigation and the work completed to date by the watershed sub-committee as represented in the presentation today is reasonable and is approved. This includes the expected products and schedule. The expected benefits of the approach merit development and testing of the concepts. Therefore, the subcommittee is directed to proceed.

The most productive action now is to move forward and test these concepts on actual projects and watersheds. The sub-committee should identify criteria including initial steps for at least one example

that is intended to address ESA concerns in cooperation with National Marine Fisheries Service and US Fish and Wildlife Service, and select appropriate test cases that can be evaluated in the next 4 months.

TIMELINE. The sub-committee shall return to TPEAC in May with recommendations for one or more specific test cases. The test cases will be developed and evaluated from June through August.

A report will be prepared in September.

A report will be presented to TPEAC in October.

PRODUCT. To the extent feasible, the following will be included in the report:

- A detailed description of a watershed based approach to compensatory mitigation
- Identification of what is achievable, including ways in which enhanced ecosystem health within the watershed offers the opportunity to assure biological integrity for at risk and endangered species within the watershed taken as a whole.
- Identification of recommended changes in law or processes to improve effectiveness of watershed based mitigation.
- Update the current interagency alternative mitigation policy.

ADOPTED by the TPEAC (April 10, 2002).

Senator Dan Swecker, committee chairman

Modifications to
resolution_____

Notes of discussion

Result of Vote

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	x			
Senator Prentice	x			
Rep. Ericksen	x			
Rep. Rockefeller	x			
Department of Transportation	x			
Department of Ecology	x			
Department of Fish & Wildlife	x			
Association of Washington Cities				x
Washington State Association of Counties	x			

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Watershed Based Mitigation Planning: Moving forward

**Status Report for the
TPEAC**

**Watershed Based Mitigation Sub-Committee
April 10, 2002**

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What is Watershed-based Mitigation?

The Council on Environmental Quality defines “**mitigation**” as:

- (a) **avoiding an impact** altogether by not taking a certain action or parts of an action;
- (b) **minimizing** impacts by limiting the degree or magnitude of the action and its implementation;
- (c) **rectifying** the impacts by repairing, rehabilitating or restoring the affected environment;
- (d) **reducing** or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- (e) **compensating** for the impact by replacing or providing substitute resources or environment. (40 CFR §§ 1500-1517(2000)).

Watershed-based mitigation applies these same mitigation concepts on a landscape scale complementing the site (project) specific analysis. In terms of transportation it means to plan, design, construct and maintain transportation systems using a broader landscape context evaluate the effects of certain actions and to minimize long-term adverse impacts to the environment and social values.

What is This Document?

This document is an overview of the work and direction of the watershed-based mitigation subcommittee of TPEAC and is being developed for integrating watershed-level considerations into transportation planning. The document consists of a general summary document and detailed appendices that provide regulatory guidance, watershed characterization methods, and information on local watershed coordination. All products in this document are draft until field testing and evaluation have been completed.

Foundation for Watershed-based Mitigation

Subcommittee Goal and Vision

The watershed based subcommittee for TPEAC identified the *goal of the subcommittee*:

“To facilitate the development of a watershed-based approach to environmental mitigation for transportation projects with potential applicability to other processes; to develop methodologies for mitigation on a watershed basis at appropriate scales that meets multiple agency criteria for permitting.”

The Unified Federal Policy for a watershed approach to federal land and resource management defines a watershed approach as:

“A framework to guide watershed management that: (1) uses watershed assessments to determine existing and reference conditions; (2) incorporates assessment results into resource management planning; and (3) fosters collaboration with all landowners in the watershed. The framework considers both ground and surface water flow within a hydrologically defined geographical area.”

The vision of the subcommittee is to have:

“A sustainable movement toward a future condition where transportation mitigation planning integrates community-supported watershed planning, protection, and restoration activities leading to actions that provide timely permit actions, reduce project cost, increase environmental benefit, and assist in watershed recovery.”

The Problem, Needs, Opportunities and Challenges for Watershed-based Mitigation and Management

The Problem and Needs

- **Costs are skyrocketing**
- **Environmental investment not maximized**
- **Mitigation requirements can exceed natural capacity of site**
- **On-site mitigation beyond the capacity of the site increases cost and risk of failure**
- **Natural systems are complex**
- **Impacts often effect natural systems at more than one scale**
- **Watershed methods remain conceptual and unproven**

Despite the dramatic increase in effort, legal mandates, and expenditures for environmental protection over the past 20 years, the overall condition of natural ecosystems continues to decline (Karr 1995, Montgomery et al. 1995). A growing body of work indicates that the decline of the health and functions of the natural ecosystem is perpetuated by a complex combination of existing policies (i.e., funding, transportation planning, and mitigation) and traditional “on-site, in-kind” mitigation techniques.

These policy and traditional techniques perpetuate a narrow “project by project” review and most often result in mitigation that only treats localized habitat/resource degradation and fail both in their success and in addressing the systemic causes of ecosystem degradation (Frissell 1993, Angermeier and Schlosser 1995, Montgomery et al. 1995, Reeves et al. 1995, Ebersole et al. 1997). ***In many cases, traditional mitigation techniques have resulted in ineffective mitigation sites at very high costs.***

In the Pacific Northwest the *need* for a shift in perspectives to a watershed based management and mitigation approach are being driven by a combination of the following:

- New and improved transportation infrastructure, high mitigation costs and limited “tools” for mitigation
- Increased human growth and induced land use/development
- Recent fish listings under the ESA, the prospective habitat needs and costs for successfully recovering these species
- Stronger guidance and requirements for meeting water quality standards and the rising cost of mitigating water quality impacts.

Effective restoration or mitigation treats the underlying processes driving ecosystem deterioration. A more complete understanding of natural resource ecosystems (watersheds) incorporating multiple spatial and temporal scales (a watershed approach) can identify the extent of human effects on natural resources and how best to mitigate those impacts. Conceptually, a watershed approach would evaluate complete systems (ecosystems) and provide a new “tool” for implementing required mitigation in a manner that is both cost effective and beneficial to the resources. The timing for such a shift in emphasis is now.

Opportunities

Watershed mitigation can:

- **assess impacts at multiple scales**
- **help maximize off-site environmental investment in mitigation**
- **help understand complex natural systems**
- **increase environmental function**
- **increase regulatory certainty and predictability**
- **incorporate local watershed planning and priorities, when appropriate**

The regulatory climate and scientific information increasingly support using a watershed perspective in resource management decision-making.

On the state level, the **Salmon Recovery Act** (chapter 77.85) and the **Watershed Planning Act** (Chapter 90.82 RCW) initiated statewide watershed based planning and data collection efforts to restore and protect the health of the state’s watersheds. Policy changes encouraging watershed level considerations in the mitigation of environmental impacts developed in response to the state’s increased emphasis in protecting ecosystem functions. The **Wetland Mitigation Banking Law** (Chapter 90.84 RCW) endorses and encourages expanding the focus compensatory wetland mitigation efforts comprehensively within a landscape context. The **Aquatic Resources Act** (Chapter 90.74 RCW) directed state resource agencies to evaluate compensatory wetland mitigation projects for infrastructure projects in the context of a WRIA. The **Alternative Mitigation Policy Guidance** (2000), a joint policy guidance between WDFW, Ecology and WSDOT, establishes guidelines for evaluating alternative forms of mitigation for impacts to aquatic resources.

On the federal level, several policies endorse the adoption of a landscape/watershed based

approach to resource management. The federal agencies adopted joint guidance for the establishment and operation of wetland mitigation banking in 1995. In 2000, a unified federal policy for a watershed approach to federal land and resource management was developed. EPA continues its efforts to develop biological indicators for assessing watershed health and prioritizing restoration efforts. The National Research Council's report on compensatory wetland mitigation concludes that:

“Degradation of wetlands contributes to an overall decrease in watershed ecological function . . . The purpose of this chapter (Chapter 3) is to demonstrate that these units are hydrologically connected and thus wetland functions are integrated on a watershed basis. Consequently, wetland mitigation should be considered on a watershed basis. . .”

“Restored and created wetlands should be self sustaining (Mitsch and Wilson 1996); to be self-sustaining, they must be properly sited in the watershed. One way to target mitigation sites to appropriate landscape position is through the development of basin wide wetland restoration and mitigation plans.”

The use of watershed plans in the regulatory decision making process can help direct avoidance, minimization and compensatory mitigation to areas where environmentally benefits can be optimized.

The Challenges

Watershed methods remain conceptual and unproven.

Because watershed characterization methods are new or in-development, safeguards need to be in place to minimize the risk of adverse environmental impacts. Mitigation, in advance of project impacts, reduces the uncertainty and risk regulatory agencies take in permitting a mitigation site that is constructed concurrently with project impacts. Mitigation site development five or more years in advance of project impacts provides substantial opportunity for achieving a functioning mitigation site prior to project impacts.

Good mitigation planning dictates that potential mitigation sites be assessed to determine their ability to maintain functions created or restored under both current and anticipated future land uses. Natural resource impacts from transportation projects are assumed to be permanent.

Mitigation of those impacts should occur in areas where surrounding land use will not preclude the long-term functioning of the site. Understanding the relationship between past, present, and future conditions of a watershed is essential to successful effective mitigation planning.

Mitigation sites need to provide appropriate watershed processes and functions to offset specific impacts. While the information base on salmon-centered restoration opportunities continues to grow, actions designed to benefit salmon may or may not provide adequate replacement of specific functions and resources. Mitigation for water quality impacts such as the

discharge of near field pollutants such as copper and other metals, needs to address removing or reducing inputs of that pollutant into the receiving water and a priority watershed restoration project focused on habitat would probably not provide the necessary mitigation.

The approval process entails significant investments in time and information.

The subcommittee shall develop a framework for evaluating and reviewing alternative mitigation projects. Options for achieving this include the development of dichotomous keys for decision-making on alternative watershed based mitigation proposals. See conceptual example in Appendix A.

Streamlining elements could include:

- Templates for watershed-based mitigation documents with consolidated agency approvals
- Dedicated staff in the regulatory agencies to work with WSDOT on watershed based mitigation programs
- Consistent standards for the review of mitigation proposal and debiting projects
- Further refinement of the procedures for implementing the alternative mitigation policy guidance
- Development of a memorandum of agreement for timely review of proposals

Integrating ESA into watershed management.

In the state of Washington, the relationship of watershed based mitigation and the ESA are currently unknown. The National Marine Fisheries Services and United States Fish and Wildlife Service (Services) are working together to identify, if any, the possibility and applicability integrating one with another. The Services will continue to work with the Watershed Based Mitigation Subcommittee, identifying the ESA “sideboards”, as well as any potential options.

Water Quality and Watershed-based Mitigation

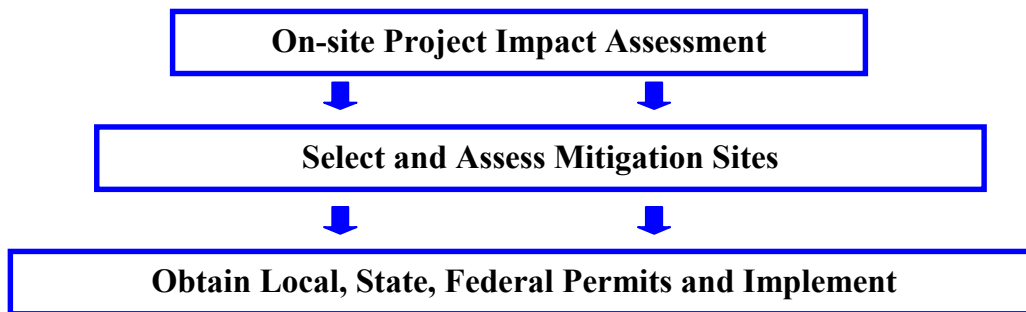
While wetland and habitat laws and mitigation requirements include the flexibility to utilize a watershed perspective to offset project impacts, the water quality standards have limited flexibility. Water quality standards dictate that project construction and operation cannot cause an exceedance of standards. In areas where pollutant levels exceed the standard, ***projects cannot result in additional degradation of water quality***. One method to allow discharges to water bodies using alternative mitigation is to provide additional assimilative capacity in the water body segment. However, the project proponent must demonstrate that an alternative mitigation action provides assimilative capacity in the water body to allow the project to discharge without exceeding standards outside of the dilution zone. See Appendix A for detailed discussion of water quality sideboards.

Transportation Funding Constraints

Narrative needs to be developed to clarify what the constraints are on the expenditure of highway funds for watershed based mitigation alternatives.

Approach to Watershed-based Mitigation

The Approach...Now



Project mitigation is typically done at the individual project site scale. Decisions on avoidance, minimization and compensatory mitigation have tended to focus on the immediate project area. A significant driver for this perspective stems from the historic regulatory preference for on-site compensation. Project impacts are assessed at the project site, and mitigation alternatives are selected based on opportunities to provide replacement on or near the project site.

The permitting processes for individual project generally take a year or longer depending on the size and scope and significance of the project's impacts. Regulatory decisions are relatively straightforward since the resource impacts are known and the mitigation actions are identified.

This approach has resulted in the placement of compensatory wetland mitigation on sites that are subject significant disturbance pressures from adjacent and upslope land uses and continued degradation of water quality. Site located in urbanizing basins have altered hydrologic regimes, (flashy hydrographs with rapid peaks in the level of inundation and length of residence). The disruption of the natural hydrologic cycle alters the structure of the wetland and its use by wildlife. In some cases, the compensation sites primarily serve as storm water treatment and retention facilities.

For sustainable mitigation, individual mitigation sites need to be evaluated in a landscape context. There are some environmental losses that may only be replaced in close vicinity to impact area. Many times there are opportunities basin and landscape wide to replace losses that occur at individual impact sites with better protection and less cost. Those opportunities need to be sought out and incorporated into mitigation planning (NRC, 2001.)

The subcommittee recognizes that watershed based mitigation requires and investment in time and resources and that a phased in approach will allow WSDOT to build on existing watershed planning efforts. The subcommittee proposes a two stage approach to integrating watershed level considerations into transportation planning, design and construction. The near-

term approach focuses on the individual project in the design stage. The long-term approach integrates watershed information collected during the first stage into long-term transportation and land-use planning.

The Approach...Near-term

This stage focuses on projects that are on the six-year plan. During the design phase of project development, information on the landscape context of the project can be collected and collated as part of the environmental analysis of the project. Using existing and available information should minimize potential delays in project delivery. Projects during this transitional phase would be used to apply watershed based alternative mitigation activities.

Step 1 Identify and quantify project impacts at the site scale and a larger landscape scale (sub basin or watershed.) Determine when project impacts will contribute to exceedance of water quality standards and which impacts and functions must be replaced on site and which mitigation would have greater benefit off site.

Step 2, Collect and collate existing data layers for geology, hydrology (surface and ground water systems, and water quality information such as 303(d) listings), habitats, and land use coverages in a GIS based system to create a snapshot of the baseline watershed conditions and functioning. The ecological processes and the conditions of aquatic and terrestrial resources in the watershed are characterized. Analyze project impacts on watershed condition. See Appendix B – Resource characterization. (*This watershed baseline information is carried over to long-term transportation planning.*)

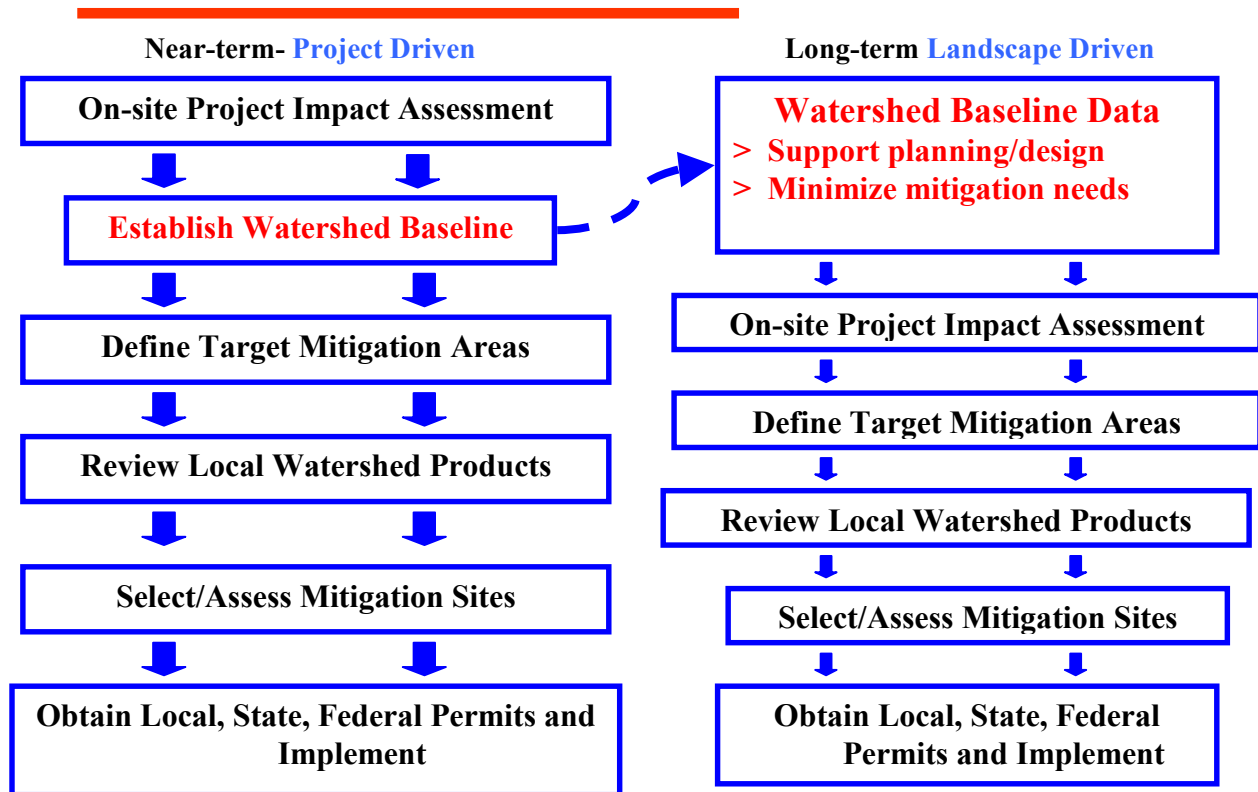
Step 3 Identify target landforms and areas; resource areas, and land use types for mitigation in the watershed. Identify potential sites for mitigation such as areas where watershed processes have been disrupted due to human influences (e.g. disruption of floodplain/river interactions due to diking.) Identify where pollutant loads may be reduced.

Step 4 Use information from local watershed analyses which identify priority restoration sites. Determine if potential restoration sites would provide suitable compensation for project impacts.

Step 5 Prioritize mitigation sites based on their ability to meet mitigation needs and restore watershed health and cost. Select and design mitigation project.

Step 6 Coordinate with local, state and federal entities and obtain necessary approvals and agreements. See Appendix C – Local Watershed-Based Planning Efforts

The Approach...Long-term



As information on each of the WRIAs is compiled, the data can be used early in the transportation planning process. The effects of transportation corridors and systems on watershed functioning can be identified to avoid and minimize impacts to important resources and ecological processes.

The project analysis and mitigation steps in the long term approach mirror those in the near term approach except that the watershed level information comes in at the first step of the process. Bringing in watershed level considerations early in the planning process enables WSDOT to make project decisions that minimize adverse effect to watershed functioning and health.

Benefits of the Watershed Approach

Cost Savings

When watershed based mitigation is used, costs can be reduced through lower land costs by purchasing lands in advance and at off site locations where land costs less. Mitigation actions

completed up front reduce permitting costs and minimize project delivery delays since information necessary to make resource decisions is available and the compensation projects are already established.

Increased Environmental Benefit

Watershed based mitigation increases environmental benefits by maximizing avoidance and minimization actions in locating and designing projects. Compensatory mitigation can be located in the most suitable areas to restore ecosystem processes, habitats and functions lost. A greater emphasis on site selection using a watershed perspective reduces risks associated with mitigation because sites are selected based on their ability to provide necessary functions not their proximity to the project area. Many existing mitigation projects fail because designers attempt to “fit” the required functions and habitats onto sites that do not have the capacity to sustain them. Watershed based mitigation actions target areas where the ecological need and value is greatest.

Improved Project Delivery

As data on watershed condition is collected and analyzed, avoidance and minimization opportunities can be optimized, reducing the need for compensatory mitigation. As advance mitigation sites and mitigation banks are developed within a watershed, permitting of debit projects using the mitigation should be faster and project delays minimized.

Sub-Committee Products

- Draft watershed characterization methods
Under development - See Appendix B for draft methods
- List of data sets needed for watershed work
Under development - See Appendix B for draft methods
- Proposed timelines
- Draft options for mitigation
See Appendix A for draft – under development
- List of local watershed-based planning efforts
See Appendix C for report
- Description of level of analysis used in planning efforts
See Appendix C for report
- Description of purpose for each planning effort
See Appendix C for report
- Decision-making matrix for mitigation alternatives
Under development
- Alternative Mitigation agreement template

Under development, preliminary outline in Appendix A

Timelines

- **May, 2002 – Recommendations to TPEAC on sites to test and evaluate methods**
- **May, 2002 – Evaluation efforts initiated; draft methods revised**
- **October, 2002 – Available results and revised methods presented to TPEAC**

References

National Research Council, 2001

Appendix A

Process Improvement for Authorizing Alternative Mitigation

Process Improvements for Authorizing Alternative Mitigation

The problem:

WSDOT's attempt to implement alternative wetland mitigation has been time consuming and costly. While permitting for on-site (or nearby) wetland mitigation occurs relatively quickly, projects involving watershed level mitigation efforts require lengthy approval processes.

Causes for the delays

- Need for information on the landscape context for the mitigation and quantifying the environmental gain at the compensation site.
- The number of entities involved
- Turnover in agency and WSDOT staff
- Lack of a clear detailed process
- A framework for implementing alternative mitigation for water quality impacts has not been developed.

Efforts still move forward. WSDOT completed negotiations and constructed one wetland bank in Moses Lake and nears the end of negotiations on its wetland bank in the Chehalis watershed. WSDOT has initiated work on a programmatic compensation agreement for impacts from maintenance and construction projects in Willapa Bay. The I-405 corridor project includes an early action mitigation plan as another approach to offsetting transportation impacts in a more comprehensive manner.

Options/Alternatives

Opportunities for Improvement

(Draft under development – roles, responsibilities and funding not determined yet)

A clearly defined process. As ongoing efforts in establishing watershed based mitigation move forward, the length of time needed to establish watershed based mitigation should decrease.

Consistent staff Assignment of agency leads who coordinate with regional technical experts.

Well facilitated meetings focusing on ***interest-based negotiation***

Develop an MOA with the process outlined, roles and responsibilities, timelines for review and

comment.

Develop tools to gain consistency in reviewing and evaluating the benefits and adverse effects of projects at a landscape level.

Develop standard language for permits that is legally defensible.

Identify crediting methodologies for a range of resources including water quality, fish and wildlife habitats, wetlands, and floodplains.

Information for alternative mitigation agreements

Draft still under development

- ❑ Baseline impact site conditions
- ❑ Quantitative and spatial estimate of impacts
- ❑ Proposed avoidance, minimization, and rectification measures
- ❑ Statement of need for compensation / justification of why impacts are unavoidable
- ❑ Goals and objectives of compensation
- ❑ Detailed implementation plan
- ❑ Adequate replacement ratio to compensate for temporal losses as negotiated with permitting agencies
- ❑ Performance standards to measure whether goals are being reached
- ❑ Maps and drawings of proposal
- ❑ Operation and maintenance plans (including who will perform)
- ❑ Monitoring and evaluation plans (including schedules)
- ❑ Contingency plans, including corrective actions that will be taken if mitigation developments do not meet goals and objectives

Mitigation Options Regulatory workgroup – TPEAC Watershed based mitigation subcommittee

Resources Affected By Project & Requiring Mitigation	Goal/Purpose	Sideboards	Options For Mitigation	Actions Necessary To Implement Watershed Mitigation
Discharges – Water Quality	<ul style="list-style-type: none"> Meet water quality standards-ground & surface Protect & restore beneficial uses Beneficial uses Improve baseline conditions Do no harm to existing water quality 	<ul style="list-style-type: none"> Discharges cannot violate water quality standards. No Offsite mitigation for 303d listed element unless discharges produced upstream are reduced or eliminated to Provide quality treatment for all new impervious, and as much existing impervious as practicable Basic treatment – BMPs (all projects) TSS, pH, Temp. Enhanced treatment (all projects that discharge to fish bearing streams, but should have an average daily traffic limit) Pb⁺², Zn⁺², Cu⁺², Ca⁺², Cr ⁺⁶, PAHs 	<ul style="list-style-type: none"> Use stormwater manual BMPs/highway runoff manual Listed discharge offsite only if other existing discharges are reduced/eliminated and assimilative capacity is increased Can mitigate off-site for certain pollutants Bio swales-filter strips, Wet Ponds Sand filters (Bad) Media filtration Constructed wetlands Increase Riparian forest – plant conifers Increase assimilative capacity of water body within dilution zone Purchase pollution reduction credits from agricultural uses upstream. Restore riverine processes and habitat 	<ul style="list-style-type: none"> Identify 303(d) listed elements For offsite treatment, identify source upstream Partner with Ecology to schedule and perform TMDL study Perform TMDL study Establishes context/capacity for effluent trading

Mitigation Options Regulatory workgroup – TPEAC Watershed based mitigation subcommittee

Resources Affected By Project & Requiring Mitigation	Goal/Purpose of regulations	Sideboards	Options For Mitigation	Actions Necessary To Implement Watershed Mitigation
Water Quantity	<ul style="list-style-type: none"> Emulate natural hydrograph Protect aquifer recharge Restore in-stream flows 	<ul style="list-style-type: none"> Projects in critical aquifer recharge areas BMP's, Spill Response contingency planning Provide flow control to match existing conditions: <ul style="list-style-type: none"> using continuous flow model model new impervious as pre-disturbed forested conditions however, existing impervious is still impervious 	<ul style="list-style-type: none"> Infiltrate after quality treatments Wet Ponds Vaults Regional storm water facility – retention/treatment. Purchase or generate credits. Work with local government to partner in regional storm water facilities. Remove other existing impervious surfaces and replace with functioning upland or wetland habitat Retrofit basins >10% TIA (total impervious area) for water storage. Cost share in local water re-use facility Floodplain and upland buy-outs to restore processes/functions Fish passage improvements instead of detention (where it makes sense-fish passage & flooding problems often go hand in hand) 	

Mitigation Options Regulatory workgroup – TPEAC Watershed based mitigation subcommittee

Resources Affected By Project & Requiring Mitigation	Goal/Purpose of regulations	Sideboards	Options For Mitigation	Actions Necessary To Implement Watershed Mitigation
Wetlands	<ul style="list-style-type: none"> No “Net-Loss” acre & function 	<ul style="list-style-type: none"> First consideration “on-site and in-kind” Sequencing-compensatory mitigation only for unavoidable impacts Priority sequence <ul style="list-style-type: none"> Avoid Minimize Rectify Reduce Compensate Off-site in same stream sub-basin unless concurrence of WDFW and Tribes to go beyond stream reach (WDFW-treaty tribes wild salmonid policy) 404(b)(1) alternatives analysis. Selects least environmentally damaging practicable alternatives 	<ul style="list-style-type: none"> On-site Off-site Wetland banking In-kind Out of kind Advance mitigation Replant riparian zones where temperature, lack of LWD are limiting Restore floodplain connectivity and over bank flooding processes Enhance boundaries of sensitive areas and areas of high bio-diversity Purchase easements and preserve at risk or critical habitats and ecosystems Education – signage, interpretive trails Programmatic mitigation Eco-regional mitigation 	<ul style="list-style-type: none"> Collect/collate baseline data on existing watershed conditions such as type, number and distribution of wetlands within the basin or watershed; percentage of impervious surface; functions or needs that are limited in the watershed Quantify impacts acreage & function
<u>Other Aquatic Resources</u> Marine Waters/Deep water Habitat	<ul style="list-style-type: none"> Navigation Protect habitat 	<ul style="list-style-type: none"> Fish passage Barriers (culverts) <ul style="list-style-type: none"> - If-Touch the culvert & need an HPA, Then-Need to fix the culvert - If-WSDOT finds a way to avoid the culvert, Then-No requirement to fix the culvert 	<ul style="list-style-type: none"> Riverine systems, Increase: <ol style="list-style-type: none"> Pools Large Woody Debris (LWD) riparian vegetation structure, conifers. ODOT’s LWD program Restore floodplain connectivity: dike removal, extend bridges to span floodplain 	<ul style="list-style-type: none"> Protect/Restore proper functioning conditions and priority habitats

Mitigation Options Regulatory workgroup – TPEAC Watershed based mitigation subcommittee

Resources Affected By Project & Requiring Mitigation	Goal/Purpose	Sideboards	Options For Mitigation	Actions Necessary To Implement Watershed Mitigation
ESA Listed Species	<ul style="list-style-type: none"> Protect Recover Maintain Improve baseline conditions where feasible Minimize incidental or direct- take to listed species 	<ul style="list-style-type: none"> Do not preclude properly functioning conditions Federal ESA cannot be “Mitigated” Should be minimized 	<ul style="list-style-type: none"> Pursue programmatic permits rather than individual authorizations Riverine systems, Increase: <ol style="list-style-type: none"> Pools Large Woody Debris (LWD) riparian vegetation structure, conifers. Beaver habitat restoration Restore over-wintering, rearing, spawning habitats Restore properly functioning conditions. 	
Fish and wildlife species		<ul style="list-style-type: none"> Bank in same stream subbasin for fish or same WRIA with WDFW and tribe concurrence For off site outside of WRIA – WDFW director approval 	<ul style="list-style-type: none"> On site 	

Mitigation Options Regulatory workgroup – TPEAC Watershed based mitigation subcommittee

Resources Affected By Project & Requiring Mitigation	Goal/Purpose	Sideboards	Options	Actions Necessary To Implement Watershed Mitigation
Options for avoiding and minimizing adverse effects at the watershed level	Reduce net adverse effects of transportation systems to efficiently move people and goods.	Alternatives must be cost-effective	<ul style="list-style-type: none"> ▪ Use Toll roads for SOVs to pay for <ul style="list-style-type: none"> ○ Mass transit - buses ○ Watershed based mitigation ○ Park and ride facilities ○ Light rail ▪ Multiple level Park and ride structures to increase capacity with < footprint ▪ Mass transit, HOV lanes ▪ bridge sensitive areas ▪ Expand EMA concurrency requirements to the WTP (Washington Transportation Plan) ▪ For local watershed plan which identify mitigation needs: <ul style="list-style-type: none"> ○ Collect list of needs/restoration opportunities that are not attainable for the local watershed group, ○ Implement needs – may be limited by resource. 	
Other alternatives general to watershed health			<ul style="list-style-type: none"> ▪ Develop a formula to determine how much money would be provided from each project to improve baseline conditions ▪ Have project team, locals, & permit agencies determine best use of money ▪ Riparian restoration when 303 listing is due to temperature (lower temperature with shade rather build big huge ponds. ▪ Buy land for green space or for land bank 	



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March 14, 2002

Mr. Bruce Smith
Washington Department of Transportation
Environmental Affairs Office
310 Maple Park Avenue SE
Olympia, WA 98504-7408

RE: Comments and Guidance on Early Action Mitigation Proposal for I-405

Dear Mr. Smith:

In preparing for the concurrence point review, Ecology has several comments on the draft mitigation agreement and response summary that has been prepared for the I-405 project. We are providing in this letter some clarifying points on water quality issues that have been discussed between our agencies, specifically for the I-405 project.

We understand that the Mitigation Process is designed to provide guidance on how we will come to agreement as agencies on a mitigation plan that is sufficient to address unavoidable impacts to functions during construction and as a result of the post construction operation of the I-405 project.

State and federal requirements to meet the water quality standards are a complicating factor for Early Action Mitigation. Compliance decisions regarding wetlands and habitat are based on function replacement, no net loss guidance, and protection of beneficial uses. Protection of water quality through compliance with the state water quality standards is added along with the above stated considerations to make a final compliance decision. For early action mitigation to work, the responsibility is on the applicant to provide the documentation and technical basis necessary to determine that the project will comply with state water quality standards. This may be easier to do for wetland and habitat impacts than for stormwater and water quality impacts.

Before Ecology can accept the Draft Mitigation Agreement as the framework upon which mitigation for the I-405 expansion will be based, the agreement will need to be strengthened and clarified. For watershed planning tools to be effective in this task, additional elements and more scientific rigor will need to be added, including:

1. The recognition where water quality standards are currently being met, the project cannot cause or contribute to a violation of standards. Where a receiving water body meets water quality standards and has available assimilative capacity, compliance with state water quality standards may be met one of two ways:
 - through the use of Ecology's stormwater manual or an approved equivalent, or
 - through a technical demonstration (see below) that water quality standards will be met.

Where a technical demonstration is used, compliance with numeric water quality criteria is not required at the point of discharge if the study indicates there is available assimilative capacity (dilution) within the water body at the point of discharge.

2. Where water quality standards are currently not being met, the project cannot result in additional degradation of water quality. Where a receiving water body that is on the 303(d) list, the presumptive approach to demonstrating compliance with standards may not be legally and technically defensible for a project of the magnitude of I-405. Water body segments that are listed on the 303(d) list for a pollutant of concern from highway runoff are assumed to have no assimilative capacity for dilution. In these cases the following is required:

- demonstrate assimilative capacity exists at the point and time of discharge, or
- numeric criteria must be met at the point of discharge, or
- additional assimilative capacity must be created in this water body segment. The demonstration approach will likely be necessary to meet this requirement.

3. Implementing the Demonstration Approach. The use of the demonstration approach for compliance with water quality standards must include a technical analysis and assessment of the pollutant loading from the proposed project on the receiving water quality. To do this will require an estimate of the water quality and quantity contribution from existing and new impervious surfaces within the project boundaries. This study should include information on receiving water body characteristics including flows and background concentrations for the common pollutants of concern in highway runoff.

4. Evaluating pollution sources in the watershed. If the technical analysis indicates that water quality standards will be exceeded in the receiving water, watershed based mitigation may be a viable method for reducing the pollutant background concentrations. This approach can be used to free up assimilative capacity at the point of discharge. A watershed assessment model should be used to identify potential sources of pollution and determine the degree to which the sources are contributing to the present day conditions at the project site. This is needed to show that reductions in pollutant load in one part of the watershed will have the desired affect at the project site. It is not permissible for a project to exceed water quality standards in one place in exchange for enhancing the water quality in another stream segment.

5. WSDOT obligations. Where water quality standards are currently not met in receiving waters impacted by a WSDOT project, WSDOT is not required to restore water quality throughout the watershed. WSDOT is only obligated to prevent further degradation of water quality at the project site. Once pollution sources in the watershed are described and their influence at the project site understood, this opens the door to mitigation and/or pollutant trading opportunities.

6. Mitigation/Pollution Trading. If modeling shows that pollutant reductions at an upstream site can be made that will allow for increased loading at the project site, a pollutant trading mechanism will need to be developed as part of the mitigation plan.

- If the reductions are planned to come from a third party this mechanism must be a legally enforceable to ensure future control of the source;
- If the reductions are being proposed from another WSDOT source, the trading mechanism need only document the size of the reduction and a commitment to maintain the conditions at the mitigation site.

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If WSDOT chooses a pollution reduction trading alternative, work with a local watershed group may be needed in order to establish the trading rules (market value and currency of the pollutant reductions). This also gets potential partners to the table that would be willing to sell or trade pollution reduction credits.

The evaluation and mitigation process described above is very similar to a Total Maximum Daily Load – a process that defines the pollutants of concern, identifies the sources of these pollutants, describes the transport mechanisms in the watershed, and requires load reductions of various sources. The primary benefit of a TMDL is that the pollutant load reductions are identified and approved in a legally recognized document.

To clarify some confusion on past comments, we want to make it clear that Ecology will not require the development of a TMDL or water clean-up plan for any of the projects within the I-405 corridor prior to addressing permits or mitigation. But as stated earlier, we will need the technical and scientific studies to support the mitigation being proposed by WSDOT. Developing TMDLs or a similar analyses for waters within the I-405 corridor may make the permitting and mitigation decisions easier for WSDOT because the information developed as part of a TMDL is similar to information that will be needed to develop tradeoff scenarios per the alternative mitigation agreement.

Doing a TMDL prior to the project also assures WSDOT of their requirements and provides information needed to make choices when developing alternatives for a particular project rather than assuming a set of requirements for decision making that may change (either to be more or less stringent) once TMDLs are complete.

A TMDL substantially reduces the risk of a citizen suit under the provisions of the Clean Water Act. In addition, WSDOT should recognize that TMDLs completed after projects are built may require expensive retrofits to meet water quality standards.

Finally, the early Action mitigation proposal does not include timelines. Technically, this project cannot be considered "early action" since the time horizon for the project is rather short. We have provided some suggestions that should help keep this project on track, but a longer range planning approach is needed to address water quality in future large complex WSDOT projects. This same timeframe is also needed to consider options for wetlands and habitat.

Opportunities for improved coordination between Ecology and WSDOT:

The procedures and trading mechanisms for mitigation or pollution reduction trading for stormwater needs to be more fully defined. Here are some proposals to integrate WSDOT's need for the technical basis for watershed based trading with Ecology's TMDL program:

- 1) Each year WSDOT and Ecology should meet to discuss projects planned for the coming 5- to 10-year horizon. At this meeting the two agencies would determine:
 - a) if a discharge from a planned project would result in a violation of water quality standards;
 - b) if the project has the potential to impact a 303(d) listed waterbody; and
 - c) if the discharge will contain a pollutant on the 303(d) list for that water body.


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- 2) If the proposed increase or new discharge is in an impaired (303(d) listed) stream segment, WSDOT and Ecology should determine the status of TMDL development in that drainage. WSDOT is strongly encouraged to participate in the development and implementation of the TMDL. Ecology will work with WSDOT and the surrounding communities to establish a TMDL development schedule that best meets everyone's needs.
- 3) WSDOT is also able to contribute resources to the development of TMDLs and other studies. Ecology is obligated to complete a large number of TMDLs before 2013. In-kind or financial contributions can help WSDOT stay on schedule.

In summary, the current draft early action mitigation approach does not specifically address water quality. Water quality needs to be dealt with in a different context than wetlands or habitat. We have provided some direction in this letter on how that may be approached. Where water quality standards are currently being met, a WSDOT project may not cause a violation of those standards. Where standards are currently not being met, there is a prohibition on new or increased pollutant loading to the waterbody for those pollutants. Lastly, a longer time frame for planning is needed to adequately address the water quality concerns prior to project design.

Thank you for giving us the opportunity to clarify our concerns regarding this approach. Again, if you have any questions, please contact Stephen at 407- 6459.

Sincerely,


Megan White, P.E., Manager
Water Quality Program

cc: Mike Cummings, DOT Urban Corridors Office

Laws, Regulatory Authorities, Policies and Guidance that apply to Transportation Projects

Agencies	Water Resources	Wetlands	Aquatic Habitat/Species	Upland Habitat/Species	Floodplains
EPA	National Environmental Policy Act (NEPA) (Public Law 91-190) Sections 401 and 402, federal Clean Water Act; Safe Drinking Water Act; Federal Water Quality Standards, 33 CFR 131	NEPA; Executive Order 11990; Sections 404, 401 and 402, federal Clean Water Act. Memorandum of Agreement (MOA) with the Department of the Army concerning the determination of mitigation under the 404(b)(1) Guidelines; Wetland banking Compensation Program Memorandum of Agreement with WSDOT, EPA, Ecology, WDFW, USFWS, NMFS; Federal guidance on the establishment and operation of wetland mitigation banks, (Federal Register Vol. 60, No. 228, November 28, 1995. 58605-58614)	National Environmental Policy Act (NEPA);	National Environmental Policy Act (NEPA);	: Executive Order 11988, Floodplain Management
	National Environmental Policy Act (NEPA); federal Clean Water Act	<u>Authorities:</u> Section 404, federal Clean Water Act; Section 10, River and Harbor Act; National Environmental Policy Act (NEPA); federal Clean Water Act; Coastal Zone Management Act (CZMA); Fish and Wildlife Act of 1956; Migratory Marine Game-Fish Act; Fish and Wildlife Coordination Act (Public Law 73-121); Endangered Species Act (ESA) (Public Law 93-205); Marine Mammal Protection Act; Wild and Scenic Rivers Act. <u>Regulation(s):</u> Guidelines for Specification of Disposal Sites for Dredged or Fill Material [40 CFR 230, i.e. 404(b)(1) Guidelines] <u>Policy:</u> Executive Order 11990.. Regulatory Guidance Letter regarding Compensatory Mitigation, 31 October 2001; MOA with the Environmental Protection Agency concerning the determination of mitigation under the 404(b)(1) Guideline; Wetland banking Compensation Program Memorandum of Agreement with WSDOT, EPA, Ecology, WDFW, USFWS, NMFS; Federal guidance on the establishment and operation of wetland mitigation banks, (Federal Register Vol. 60, No. 228, November 28, 1995. 58605-58614)	National Environmental Policy Act (NEPA); Section 404, federal Clean Water Act; Section 10, River and Harbor Act; National Environmental Policy Act (NEPA); federal Clean Water Act; Coastal Zone Management Act (CZMA); Fish and Wildlife Act of 1956; Migratory Marine Game-Fish Act; Fish and Wildlife Coordination Act; Endangered Species Act (ESA); Marine Mammal Protection Act; Wild and Scenic Rivers Act.; Migratory Bird Treaty Act (MBTA)	National Environmental Policy Act (NEPA); Fish and Wildlife Act of 1956; Fish and Wildlife Coordination Act; Endangered Species Act (ESA); Migratory Bird Treaty Act (MBTA)	Executive Order 11988, Floodplain Management

Agencies	Water Resources	Wetlands	Aquatic Habitat/Species	Upland Habitat/Species	Floodplains
NMFS	National Environmental Policy Act (NEPA); Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267)	National Environmental Policy Act (NEPA); Federal guidance on the establishment and operation of wetland mitigation banks, (Federal Register Vol. 60, No. 228, November 28, 1995. 58605-58614) Wetland banking Compensation Program Memorandum of Agreement with WSDOT, EPA, Ecology, WDFW, USFWS, NMFS	National Environmental Policy Act (NEPA); Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267)	National Environmental Policy Act (NEPA); Magnuson-Stevens Fisheries Conservation and Management Act	Executive Order 11988, Floodplain Management
	National Environmental Policy Act (NEPA);	National Environmental Policy Act (NEPA); Executive Order 11990; Fish and Wildlife Coordination Act (FWCA); Migratory Bird Treaty Act (MBTA). U.S. Fish and Wildlife Service Mitigation Policy; Federal guidance on the establishment and operation of wetland mitigation banks, (Federal Register Vol. 60, No. 228, November 28, 1995. 58605-58614); Wetland banking Compensation Program Memorandum of Agreement with WSDOT, EPA, Ecology, WDFW, USFWS, NMFS	National Environmental Policy Act (NEPA); Endangered Species Act (ESA); Fish and Wildlife Coordination Act (FWCA); Migratory Bird Treaty Act (MBTA). U.S. Fish and Wildlife Service Mitigation Policy	National Environmental Policy Act (NEPA); Endangered Species Act (ESA); Fish and Wildlife Coordination Act (FWCA); Migratory Bird Treaty Act (MBTA).	Executive Order 11988, Floodplain Management
	National Environmental Policy Act (NEPA);	National Environmental Policy Act (NEPA); Executive Order 11990.	National Environmental Policy Act (NEPA); Endangered Species Act (ESA)	National Environmental Policy Act (NEPA); Endangered Species Act (ESA)	Executive Order 11988, Floodplain Management
	<i>Under construction – not complete</i>		Wild salmonid policy with WDFW, 1996		

Agencies	Water Resources	Wetlands	Aquatic Habitat/Species	Upland Habitat/Species	Floodplains
DOE	<p><u>Authorities:</u> Water Pollution Control Act, Chapter 90.48 RCW; Aquatic Resources Mitigation Act, Chapter 90.74 RCW; Water Resources Act, Chapter 90.54 RCW; Shoreline Management Act, Chapter 90.58 RCW; Salmon Recovery Act, Chapter 77.85 RCW; State Environmental Policy Act, Chapter 43.21C RCW; Sections 401 and 402, federal Clean Water Act; Coastal Zone Management Act (CZMA).</p> <p><u>Regulation(s):</u> Water Quality Modification, Chapter 173-201A WAC; Hydraulic Code Rules, Chapter 220-110 WAC; Shoreline Management Permit and Enforcement Procedures, Chapter 173-27 WAC; Sediment Management Standards, Chapter 173-204 WAC; National Pollutant Discharge Elimination System Permit Program, Chapter 173-220 WAC.</p> <p><u>Policy/Guidance:</u> Ecology Storm water Manual and an Alternative Mitigation Policy Guidance Agreement with WSDOT and WDFW; Water Quality Policy 1-22, Adopting supplemental treatment as a Best Management Practice and defining compliance with Water Quality Standards for Storm water Impacts.</p>	<p><u>Authorities:</u> Water Pollution Control Act, Chapter 90.48 RCW; Aquatic Resources Mitigation Act, Chapter 90.74 RCW; Water Resources Act, Chapter 90.54 RCW; Shoreline Management Act, Chapter 90.58 RCW; Salmon Recovery Act, Chapter 77.85 RCW; State Environmental Policy Act, Chapter 43.21C RCW; Wetlands Mitigation Banking Law, Chapter 90.84 RCW; Sections 401 and 402, federal Clean Water Act; Coastal Zone Management Act (CZMA).</p> <p><u>Regulation(s):</u> Water Quality Modification, Chapter 173-201A WAC; Hydraulic Code Rules, Chapter 220-110 WAC; Shoreline Management Permit and Enforcement Procedures, Chapter 173-27 WAC; Sediment Management Standards, Chapter 173-204 WAC; National Pollutant Discharge Elimination System Permit Program, Chapter 173-220 WAC.</p> <p><u>Policy/Guidance:</u> Alternative Mitigation Policy Guidance Agreement with WSDOT and WDFW; Wetland banking Compensation Program Memorandum of Agreement with WSDOT, EPA, Ecology, WDFW, USFWS, NMFS; Implementing Agreement for Wetland Protection between Ecology and WSDOT.</p>	<p>Water Pollution Control Act, Chapter 90.48 RCW; Aquatic Resources Mitigation Act, Chapter 90.74 RCW; Water Resources Act, Chapter 90.54 RCW; Shoreline Management Act, Chapter 90.58 RCW; Salmon Recovery Act, Chapter 77.85 RCW; State Environmental Policy Act, Chapter 43.21C RCW; Sections 401 and 402, federal Clean Water Act; Coastal Zone Management Act (CZMA).</p> <p><u>Regulation(s):</u> Water Quality Modification, Chapter 173-201A WAC; Hydraulic Code Rules, Chapter 220-110 WAC; Shoreline Management Permit and Enforcement Procedures, Chapter 173-27 WAC; Sediment Management Standards, Chapter 173-204 WAC; National Pollutant Discharge Elimination System Permit Program, Chapter 173-220 WAC</p>		<p>Floodplain Management Act, Chapter 86.16 RCW; Floodplain Management, WAC 173-158; National Flood Insurance Program (NFIP); Executive Order 11988 of May 24, 1977</p> <p>Shoreline Management Act; Flood Control Assistance Account, Chapter 86.26 RCW;</p> <p><u>Policy/Guidance:</u> Alternative Mitigation Policy Guidance Agreement with WSDOT and WDFW; comprehensive Planning for Flood Hazard Areas, Ecology 1991</p>
	<p>Construction Projects in State Waters, Chapter 77.55 RCW; Salmon Recovery Act, Chapter 77.85 RCW; Aquatic Resources Mitigation Act, Chapter 90.74 RCW; Fish and Wildlife Coordination Act (FWCA); Growth Management Act, Chapter 36.70A RCW; State Environmental Policy Act, Chapter 43.21C RCW.</p> <p><u>Regulation(s):</u> Hydraulic Code Rules, Chapter 220-110 WAC; WDFW SEPA Rules, Chapter 232-19 WAC.</p>	<p>Construction Projects in State Waters, Hydraulic Project Approval, Chapter 77.55 RCW; Salmon Recovery Act, Chapter 77.85 RCW; Aquatic Resources Mitigation Act, Chapter 90.74 RCW; ; Wetlands Mitigation Banking Law, Chapter 90.84 RCW; Fish and Wildlife Coordination Act (FWCA); Growth Management Act, Chapter 36.70A RCW; State Environmental Policy Act, Chapter 43.21C RCW.</p> <p><u>Regulation(s):</u> Hydraulic Code Rules, Chapter 220-110 WAC; WDFW SEPA Rules, Chapter 232-19 WAC</p> <p>WDFW Mitigation Policy M5002; Alternative Mitigation Policy Guidance Agreement with WSDOT and WDFW; Wetland banking Compensation Program Memorandum of Agreement with WSDOT, EPA, Ecology, WDFW, USFWS, NMFS</p>	<p>Construction Projects in State Waters, Chapter 77.55 RCW; Salmon Recovery Act, Chapter 77.85 RCW; Aquatic Resources Mitigation Act, Chapter 90.74 RCW; ; Wetlands Mitigation Banking Law, Chapter 90.84 RCW; Fish and Wildlife Coordination Act (FWCA); Growth Management Act, Chapter 36.70A RCW; State Environmental Policy Act, Chapter 43.21C RCW</p> <p>WDFW Mitigation Policy M5002 and an Alternative Mitigation Policy Guidance Agreement with WSDOT and Ecology; Wild Salmonid Policy with Tribes, 1996</p>	<p>Fish and Wildlife Coordination Act (FWCA); Growth Management Act, Chapter 36.70A RCW; State Environmental Policy Act, Chapter 43.21C RCW.</p>	

Agencies	Water Resources	Wetlands	Aquatic Habitat/Species	Upland Habitat/Species	Floodplains
Local Govs.	Growth Management Act, Chapter 36.70A RCW; State Environmental Policy Act (SEPA); Shoreline Management Act, Chapter 90.58 RCW;	Growth Management Act, Chapter 36.70A RCW; State Environmental Policy Act (SEPA); Shoreline Management Act, Chapter 90.58 RCW;	Growth Management Act, Chapter 36.70A RCW; State Environmental Policy Act (SEPA); Shoreline Management Act, Chapter 90.58 RCW;	Growth Management Act, Chapter 36.70A RCW; State Environmental Policy Act (SEPA); Shoreline Management Act, Chapter 90.58 RCW;	

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Appendix B

Watershed Characterization Methods

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INTRODUCTION

Purpose

[Develop points into text]

- ❑ assist in meeting goals of TPEAC
- ❑ expedite transportation project development
- ❑ increase environmental gain
- ❑ use to support decision-making on proper scales, analytical rigor, etc
- ❑ create procedures that provide for alternative mitigation which have low risk to the environment, yet have a high net environmental, social, and economic benefit compared to status-quo options

The Problem

Despite dramatic increases in effort, strong mandates, and massive expenditures for environmental protection over the past 20 years, the overall condition of natural ecosystems continues to decline (Karr 1995, Montgomery et al. 1995). A growing body of work indicates that declines in ecosystem integrity are perpetuated by existing policies and traditional techniques that tend to treat local symptoms of resource degradation and fail to address the root biological and physical causes of ecosystem degradation and population decline (Frissell 1993, Angermeier and Schlosser 1995, Montgomery et al. 1995, Reeves et al. 1995, Ebersole et al. 1997).

Approach -

The 1996 State legislature passed the Aquatics Resources Mitigation Act (RCW 90.74) which stipulates that it is the policy of the state to authorize innovative mitigation measures by requiring state regulatory agencies to consider mitigation proposals for infrastructure projects that are timed, designed, and located in a manner to provide equal or better biological functions and values compared to traditional on-site, in-kind mitigation proposals.

[summarize flowchart and steps to be taken]

Guiding Principles

Approach to Mitigation

Because watershed characterization methods are new or in-development, safeguards need to be in place to minimize the risk of adverse environmental impacts. Mitigation, in advance of project impacts, reduces the uncertainty and risk regulatory agencies take in permitting a mitigation site that is constructed concurrently with project impacts. Mitigation site development five or more years in advance of project impacts provides substantial opportunity for achieving a fully functioning mitigation site prior to project impacts.

Mitigation first must maximize opportunities to avoid and minimize transportation impacts. Opportunities to maximize avoidance and minimization of natural resource impacts exist when environmental assessment occurs well in advance of transportation planning and design. Watershed characterization seeks to begin impact assessment a minimum of 6 years before the transportation project is constructed.

Do no further harm to aquatic resources and, when possible, build in incremental improvements necessary to protect, restore, and enhance the functions of the state's water bodies. Watershed characterization has been developed to help: a) avoid and minimize impacts of transportation projects and b) provide new opportunities to effectively replace functions that have been lost by unavoidable impacts. Watershed characterization will be used to assist in identifying potential mitigation sites. The final selection of off-site mitigation sites will be determined through a sites-specific environmental, social, and economic cost/benefit analysis to maximize function benefits.

Watersheds are a fundamental planning/management unit for developing natural resource and stormwater mitigation/compensation strategies. Major initiatives to recover Endanger Species Act listed salmon and correct polluted water bodies in the Pacific Northwest demonstrate the value of watershed-scale planning and implementation. Watershed characterization efforts seek to use landscape-scale planning and analysis to maximize

environmental, social, and economic benefits of dollars spent to mitigate transportation impacts.

Resource characterization work within tribal Usual and Accustomed Areas will dictate that the affected tribe(s) will be consulted and involved, to the extent their interest, to ensure that their right to fish habitat protection is guaranteed. Indian Tribes of the State of Washington are guaranteed the right to fish habitat protection (Orrick Decision). Transportation impacts to fish habitat and all associated mitigation actions will result in consultation with the appropriate Tribe or Tribes to ensure that no net loss of the tribal Usual and Accustomed Area will occur.

Good mitigation planning dictates that potential mitigation sites be assessed to determine their ability to maintain functions created or restored under both current and anticipated future land uses. Natural resource impacts from transportation projects are assumed to be permanent. Mitigation of those impacts should occur in areas where surrounding land use will not preclude the long-term functioning of the site. Understanding the relationship between past, present, and future conditions of a watershed is essential to successful effective mitigation planning.

A Change in Focus is Needed

Focus on individual mitigation sites is only appropriate after there is some understanding of how those sites fit into a landscape context. Informed land management decisions require high-quality information focused on key processes and linkages that create and shape ecosystems (Montgomery et al. 1995). By focusing solely at the site scale, managers are limited in their ability to understand how each mitigation site relates to the long-term maintenance of ecosystems. Without this understanding, mitigation effort can target symptoms of ecosystem degradation rather than core problems that must be addressed to ensure that functions are maintained over the long-term.

While the adequacy of mitigation is measured by area and function at the site-scale, to restore functions that have the greatest potential to be self-maintaining, mitigation actions should focus on the restoration of ecological processes that create and maintain functions.

Characteristics of streams and rivers reflect variations in local geomorphology, climatic gradients, spatial and temporal scales of natural disturbances, and the dynamic features of the riparian forest (Naiman et al. 1992). These attributes influence the delivery and routing of water, sediment, and woody debris in streams, which serve as the key processes regulating the vitality of watersheds and their drainage networks in the Pacific Northwest coastal ecoregion (Naiman et al. 1992). Effective restoration or mitigation treats the underlying processes driving habitat deterioration, and do not merely add structures or otherwise attempt to save the worst-degraded or most visibly damaged areas (Frissell 1993).

Incorporate Spatial and Temporal Variability into Watershed Assessment

Resource characterization must incorporate multiple spatial and temporal scales to better understand the magnitude and extent of human effects on natural resources and how best to mitigate those impacts. Any analysis of watershed condition needs to assess the variability of watershed functions and characteristics over time and space (EPA “A Watershed Assessment Primer” 1994). Communities and landscapes form the ecological and evolutionary context for populations and species; preserving integrity at a landscape-scale is critical to species persistence (Angermeier and Schlosser 1995). Mitigation projects should focus on restoring the temporal regimes and spatial diversity of the natural habitat system by affecting the processes that determine these patterns (Frissell 1993). Understanding the effect of human land use on ecological processes at different spatial and temporal scales, provides the greatest potential to optimize the selection of mitigation sites.

Definition of Terms

Take from AMG, 6188, ???

TIMELINE AND CONCURRENCE POINTS

Watershed Characterization and the Project Planning and Design Process

Add narrative and develop timeline after talking to Planning and Design staff

Expand on these key points:

- take projects identified in the planning sub-committee process - at a minimum of six years out from ad date
- looking for projects with high environmental impacts and limited potential for mitigation on-site

Concurrence Points

Concurrence points will serve as a key component of methods development. After each step has been completed, regulatory agencies and the appropriate Tribe(s) will receive a report that summarizes methods used and products developed, as well as a description of what will be done in the next step. In accordance with Alternative Mitigation Policy Guidance, specific concurrence points have also been established following the completion of Part I, Step 6 and Step 10; Part II, Step 5 and Step 8; and Part III, Step 5. These concurrence points were selected to ensure that permitting agencies and Tribes sequentially agree to a determination of project impacts, the significance of impacts, the type and amount of compensation required after implementing the mitigation sequence, and the level of replacement functions achieved.

PART I. PROJECT SITE ASSESSMENT

PURPOSE: The first part of three sets of characterization steps focuses on understanding the potential environmental impacts of the transportation project, where areas of high environmental function exist to be avoided or minimized, and the potential to mitigation unavoidable impacts on-site.

STEP 1. Inventory Aquatic and Terrestrial Resources

Use existing inventory methods.

STEP 2. Inventory Special Species and On-site Habitats

STEP 3. Inventory 303(d) Listed Water Bodies

Use existing inventory methods.

Use existing inventory methods.

STEP 4. Identify Natural Resources to Avoid and/or Minimize

Use existing inventory methods.

STEP 5. Estimate Potential Impacts of Project

Use existing methods to estimate potential project impacts to:

- Water quantity impacts from stormwater
- Water quality impacts from stormwater
- Wetland Impacts
- Floodplain Impacts
- Fish and Wildlife Habitat (including biodiversity and connectivity)

STEP 6. Assess Resources That Will Be Impacted

Use existing assessment methods.

STEP 7. Establish On-site Mitigation Boundaries

PURPOSE: The Alternative Mitigation Policy Guidance defines on-site as on or adjacent to the impact site or in the same stream reach, based on resource needs. The purpose of this step is to identify on-site mitigation boundaries.

GIS COVERAGES/DATA NEEDED:

- a) DNR 1:24,000 hydrography
- b) SSHIAP data
- c) USGS topography
- d) Surficial Geology

TASKS:

- a) Use past experience and uniform land features to delineate a proposed on-site mitigation boundary.
- b) Gain consensus from Tribal and permitting agencies on the location and extent of on-site boundaries and create

a GIS coverage with this information.

PRODUCT:

- a) A GIS coverage delineating the on-site mitigation area.

STEP 8. Determine On-site Potential to Mitigate Unavoidable Impacts.

PURPOSE: This step seeks to understand the natural capacity of the site to mitigate environmental impacts. Mitigation has often focused almost exclusively on on-site mitigation, regardless of the capacity of the site to mitigate project impacts. This practice has often increased project costs and reduced effectiveness at mitigating environmental impacts.

GIS COVERAGES/DATA NEEDED:

- a) On-site mitigation boundary coverage
- b) Surficial geology
- c) Soils data
- d) Current and pre-development wetland inventory data
- e) Floodplain boundary
- f) Land use/Land cover

TASKS:

- a) Assess potential to mitigate water quantity impacts from stormwater. Use surficial geology and soils data to determine the on-site capacity move surface water to groundwater.
- b) Assess potential to mitigate water quality impacts from stormwater.
- c) Assess potential to mitigate wetland impacts. Use existing wetland inventories and soil survey maps to identify the location and extent of current and pre-development wetlands. Use existing inventory information, aerial photos, and ground reconnaissance to determine the location and extent of destroyed or degraded wetlands on-site and the hydrogeomorphic classification (Brinson 1995) of each. Then answer the following questions:
 - Are there on-site wetlands that, when restored, have the same hydrogeomorphic class as the wetlands being impacted by the transportation project?
 - Using anticipated wetland mitigation replacement ratios, do potential wetland mitigation sites have adequate area to mitigation project impacts?
- d) Assess potential to mitigate floodplain Impacts. Calculate flood storage capacity that will be lost in a 100 year flood event. Identify the location and extent of floodplain on-site using local jurisdiction and/or FEMA floodplain maps. Using land use/land cover maps, aerial photos, and ground reconnaissance, identify on-site floodplain areas that have been filled or diked. Then answer the following questions:
 - Are there undeveloped areas of filled or diked floodplain on-site?
 - What flood storage capacity can be gained [in a 100 year flood event...does this make sense] if fill or dikes are removed?
 - Is the flood storage capacity from potential mitigation sites on-site adequate to mitigate project impacts?
- e) Assess potential to mitigate riparian impacts. Identify the riparian zone within the on-site boundary and assess condition.
- f) Assess potential to mitigate impacts to fish and wildlife habitat.

PRODUCT:

- b) Assessment of what the capacity of on-site mitigation potential for each regulated natural resources.

STEP 9. Determine Resource Needs for On-side Mitigation

PURPOSE: This step is intended to understand the need for on-site mitigation from a natural resource perspective. For example, if the transportation project disconnects a habitat corridor that is otherwise intact, on-site mitigation would be warranted to prevent habitat fragmentation. Conversely, if a habitat corridor is fragmented throughout its length, the opportunity exists to identify off-site mitigation areas that can reconnect otherwise continuous habitat.

GIS COVERAGES/DATA NEEDED:

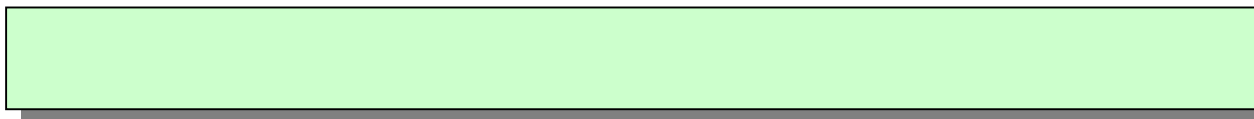
- a) Land use/Land cover
- b) Calculations of total impervious area
- c) ESA recovery plans or other habitat assessment documents
- d) SSHIAP
- e) Floodplain boundaries

TASKS:

- a) Review Ecology decision basis in Alternative Mitigation Guidance (page 8) and compensatory mitigation requirements on page 10-11.
- b) Assess resource need to mitigation water quantity impacts from stormwater on-site. Answer the following question: *For streams having average annual flows less than XXX cfs, does the upstream catchment of the receiving water body have less than 15% TIA and a forested land cover greater than 60%?* If the answer to this question is yes, there is increased potential that project impacts can contribute to channel instability if impacts are not mitigated on-site. When existing watershed conditions substantially exceed these threshold criteria, it is assumed that channel instability has already occurred and on-site mitigation for water quantity has diminished value.
- c) Assess resource need to mitigation water quality impacts from stormwater on-site. Answer the following question: *Is the receiving water body meeting water quality standards for pollutants known to be in transportation generated stormwater?* If the answer to this question is no, water quality standards are not being met at the project site and water quality impacts for the listed pollutant should be mitigated on-site. If the answer is yes, water quality data should be evaluated or pollutant loading estimates for the catchment completed. Evaluate the potential for the project to add pollutants that cumulatively will result in the upper limit of the water quality standard be approached, reached, or exceeded. If this condition exists, the listed pollutant should be mitigated on-site.
- d) Assess resource need to mitigation wetland impacts on-site. Answer the following question: *Are on-site wetlands considered to be critical habitat for an ESA listed species?* If the answer to this question is yes, wetland impacts should be mitigated on-site.
- e) Assess resource need to mitigation floodplain impacts on-site. Answer the following question: *Has the upstream floodplain lost less than 20% of its area due to filling or decoupling by dikes or levees?* If the answer to this question is yes, then project impacts to the floodplain have increased potential to push this attribute to a degradation threshold. If this scenario exists, additional effort should be placed on on-site mitigation. However, this situation should not exclude off-site mitigation up-stream of the project site.
- f) Assess resource need to mitigation fish and wildlife habitat impacts on-site. Answer the following questions: *Do project impacts fragment important intact habitat? Does the project degrade a habitat area considered to have high biodiversity?* If the answer to the first question is yes, on-site mitigation would be warranted to prevent habitat fragmentation. Conversely, if a habitat corridor is fragmented throughout its length, the opportunity exists to identify off-site mitigation areas that can reconnect otherwise continuous habitat. If the answer to the second question is yes, determine if the project will adversely impact this biologically diverse area. If the answer to that question is yes, on-site mitigation is warranted.
- g) Review the matrix of landscape pathways and indicators (Table 1 and 2) and assess if project impacts will move any landscape attribute from "properly functioning" to "at risk", move further within the "at risk" category, or move any landscape attribute from "at risk" to "not properly functioning. If any of these conditions exist, additional assessment work will be needed to determine if on-site mitigation should be a priority for that attribute.

PRODUCT:

- a) A list of regulated natural resources that warrant on-site mitigation.



PURPOSE: This step synthesizes Steps 8 and 9, the need for on-site mitigation and the natural capacity to mitigate transportation impacts and assesses the capacity of on-site mitigation to maintain function over the long-term.

GIS COVERAGES/DATA NEEDED:

- a) Coverage of on-site area
- b) Coverages developed in Part I, Steps 8 and 9
- c) Future build-out land use coverage

TASKS:

- a) Compile results of Part I, Steps 8 and 9 and identify on-site mitigation needs.
- b) Using the future build-out scenario developed in Part II, Step 2, identify on-site mitigation areas that are expected to experience intensifying land use pressure in the future.
- c) Assess which functions can be maintained at this level of future development and which areas cannot.
- d) Review information with permitting agencies to determine the appropriateness of on-site mitigation under anticipated future development pressure

PRODUCTS:

- a) A map showing potential on-site mitigation needs and future surrounding land use constraints.
- b) Concurrence with permitting agencies, local jurisdictions, and tribes regarding what should be mitigated on-site.

STEP 11. Determine Off-site Mitigation Needs

PURPOSE: Determine if off-site mitigation is required and quantify needs.

GIS COVERAGES/DATA NEEDED:

- a) Products from Part I, Step 10
- b) List of project mitigation needs, by resource area and function

TASKS:

- a) Compare the on-site capacity for mitigation from Part I, Step 10 with mitigation requirements. If mitigation requirements exceed the on-site capacity to mitigate, the difference will be the off-site mitigation need.

PRODUCT:

- a) A list of off-site mitigation needs, by resource area and function.

STEP 12. Convert Functions to Processes

PURPOSE: This is a preparatory step to watershed characterization. Functions are assessed at a site scale, while ecological processes are assessed at a landscape scale. This step converts disparate natural resources and functions into common denominators at larger scales that facilitate the selection of watershed-based mitigation options.

GIS COVERAGES/DATA NEEDED:

- a) None

TASKS:

- a) Acquire list of natural resource functions requiring mitigation.
- b) Use Table XX and knowledge of ecological processes to develop relationships between required functions and ecological processes.

Table XX. Relationships between resource functions at a site scale and ecological processes at the landscape scale.

Function at the Site-scale	Ecological Process at the Watershed-scale
Wetland Functions:	
Sediment Retention	Delivery and routing of sediment and water
Nutrient Removal/Transformation	Delivery and routing of nutrients/toxicants/bacteria and water
Fecal Coliform Control	Delivery and routing of nutrients/toxicants/bacteria and water
Temperature Maintenance	Delivery and routing of heat and water
Flood Flow Storage and Desynchronization	Delivery and routing of water
Groundwater Recharge/ Base Flow Maintenance	Delivery and routing of water
Groundwater Nutrient Retention	Delivery and routing of nutrients/toxicants/bacteria
Resident and Anadromous Fish Diversity and Abundance	Potential for all ecological processes
Habitat for ESA Listed Salmonid Species	Potential for all ecological processes
Migratory Water Bird Diversity and Abundance	Potential for all ecological processes
Aquatic Diversity and Abundance	Potential for all ecological processes
Amphibian Diversity and Abundance	Potential for all ecological processes
Food Chain Support	Potential for all ecological processes
Active and Passive Recreation	N/A
Outdoor Education	N/A
Floodplain Functions:	
Flood Flow Storage and Desynchronization	Delivery and routing of water
Riparian Functions:	
Sediment Retention	Delivery and routing of sediment and water
Resident and Anadromous Fish Diversity and Abundance	Potential for all ecological processes
Habitat for ESA Listed Salmonid Species	Potential for all ecological processes
Migratory Bird Diversity and Abundance	Potential for all ecological processes
Amphibian Diversity and Abundance	Potential for all ecological processes
Food Chain Support	Potential for all ecological processes
Stormwater Impacts to Functions:	
Increase in fine sediment inputs (TSS)	Delivery and routing of sediment and water
Increase in heavy metals	Delivery and routing of toxicants and water
Increase in peak flow and volume of water	Delivery and routing of water

PRODUCT:

- a) A list of ecological processes to be targeted for off-site mitigation.

PART II. WATERSHED-SCALE CHARACTERIZATION

Step 1. Establish Spatial Scales of Analysis

PURPOSE: The most basic purpose of this step is to define the area of potential impacts of a transportation project and establish boundaries in which mitigation actions can take place. This information can be used to more effectively understand the landscape-scale physical and biological constraints that exist at different landscape scales.

The second purpose for this step is help all agencies better understand what types of mitigation opportunities can be expected at different spatial scales under differing land uses. While it is solely the responsibility of the permitting agencies to determine the proper scale for each regulated resource, there have been few, if any, field evaluations to assist agencies in making determinations regarding appropriate scales. The evaluation of test sites will be used to help understand what are the most appropriate landscape scales for mitigating transportation impacts.

The third purpose is to determine if land use intensity has an influence on the spatial scale required to optimize social, economic, and environmental functions gained from mitigation. Some theorize that as land use intensifies, the spatial scale required to optimize mitigation site function must increase. A core principle of sustainability states that mitigation should occur as close to the impact area as possible. Together these concepts suggest the possibility for a variable spatial scale for mitigation based on the intensity of land use. The evaluation of test sites will be used to help understand if this assumption is plausible or if one single spatial scale is more appropriate for mitigating transportation impacts.

The fourth purpose is to determine if other landscape stratification tools, outside the more commonly accepted watershed boundaries, have merit when determining the area in which the mitigation of natural resource impacts can be mitigated. Omernik (XXXX) has developed a hierarchically based tool to stratify the landscape into more homogeneous units. Ecology (R. Gersib, pers. com.) has used the fourth-level ecoregions developed by Omernik to assist them in characterizing wetland resources in the Nooksack River Basin in Northwest Washington State. The evaluation of test sites will be used to help understand if landscape stratification by ecoregion has value when mitigating transportation impacts at a landscape scale.

STEP 1A. Establish the Impact Area Boundary.

DEFINITION: The impact area is the down-slope area affected by natural resource impacts to the project site.

PURPOSE: The impact area delineation will serve as a foundational layer for impact analysis. Establishing a down-slope impact area helps managers identify natural resources at risk from impacts at the project site and improve decision-making. For example, high quality natural resources down-slope of the project area would warrant stronger consideration for extensive on-site mitigation, than impact areas with highly degraded natural resources down-slope of the project area.

GIS COVERAGES/DATA NEEDED:

- a) DNR 1:24K hydrography
- b) Digital Elevation Model (DEM) data

TASK:

Identify existing information on the down-slope impact area, or if necessary, develop a down-slope drainage area using highest resolution DEM data available.

PRODUCT:

GIS coverage of the down-slope impact area of the project.

STEP 1B. Establish the Catchment Area that Drains to the Transportation Project.

DEFINITION: The catchment area is the up-slope area that delivers water directly to the project site. Often, the catchment area is smaller than the area of the sub-watershed.

PURPOSE: The catchment area serves as the smallest up-slope drainage area for analysis. The catchment area should be delineated and assessed first to determine if suitable mitigation opportunities exist.

GIS COVERAGES/DATA NEEDED:

- a) DNR 1:24K hydrography
- b) Digital Elevation Model (DEM) data

TASK:

Identify existing information that delineates the catchment area of the project site, or if necessary, develop a catchment area using the highest resolution DEM data available.

PRODUCT:

GIS coverage of the project catchment area.

STEP 1C. Establish the Sub-watershed of the Transportation Project.

QUESTION TO BE ANSWERED: Comparing Washington Department of Natural Resources (DNR) Watershed Administrative Units (WAU) and U.S. Geological Survey (USGS) 5th-field or 6th-field Hydrologic Unit Codes (HUC), what is the appropriate tool for defining the area of a sub-watershed?

PURPOSE: Establish a sub-watershed area for analysis of potential mitigation sites.

GIS COVERAGES/DATA NEEDED:

- a) DNR WAU boundary coverage
- b) USGS 5th and 6th-field HUC boundary coverage
- c) Project catchment area

TASK:

Identify potential sub-watershed boundaries using both DNR and USGS watershed schemes. Work directly with permitting agencies to which scheme to most relevant for defining sub-watersheds.

PRODUCT:

GIS coverage sub-watersheds within the transportation project WRIA.

STEP 1D. Define a Composite Sub-watershed Area.

DEFINITION: A composite sub-watershed area is defined as the primary sub-watershed of the project area and one or more additional up-slope sub-watersheds.

PURPOSE: Develop a multiple sub-watershed area for analysis of potential mitigation site.

GIS COVERAGES/DATA NEEDED:

- a) DNR 1:24K hydrography
- b) The sub-watershed boundary coverage developed in 1C above.
- c) DNR WRIA boundary coverage for the project area.

TASKS:

- a) Using the DNR hydrography coverage, develop a composite sub-watershed area.
- b) Submit to permitting agencies with rationale and gain approval for the use of this scale when identifying and analyzing potential mitigation sites.

PRODUCT:

GIS coverage of the approved composite sub-watershed boundary.

STEP 1E. Establish the Watershed Boundary.

PURPOSE: Define the watershed area for analysis of potential mitigation sites. The tool used to define a watershed was established in the Environmental Permit Streamlining Act (RCW 47.06) passed by the Washington State Legislature in May, 2001. In this legislation, the watershed was defined as the WRIA.

GIS COVERAGES/DATA NEEDED:

- a) DNR 1:24K hydrography
- b) DNR WRIA boundaries

TASK:

Clip out the WRIA or WRIs in which the project area lies and develop a WRIA coverage for analysis.

PRODUCT:

GIS coverage of the watershed(s) in which the transportation project lies.

STEP 1F. Divide Sub-watershed into Smaller Drainage Areas for Analysis.

PURPOSE: The sub-watershed is assumed to be the primary landscape unit used to mitigate transportation impacts. To understand the differences within each sub-watershed, this spatial scale needs to be sub-divided into smaller drainage areas.

GIS COVERAGES/DATA NEEDED:

- a) Coverages for the impact area, catchment area, and sub-watersheds
- b) DNR 1:24K hydrography
- c) Digital elevation model data

TASKS:

- a) Use existing GIS tools to delineate drainage areas within each sub-watershed.
- b) Establish GIS coverage.

PRODUCT:

- a) A GIS coverage of drainages within each sub-watershed.

STEP 1G. Establish Boundaries for 4th and 5th Level Ecoregions of the Transportation Project.

PURPOSE: As with the other catchment-based spatial scales, the ecoregion is another potential way to stratify the landscape, increasing potential for in-kind replacement of functions needed to compensate for transportation project impacts.

GIS COVERAGES/DATA NEEDED:

- d) EPA coverage of 4th level ecoregions

- e) Surficial geology

TASKS:

- c) Use the existing 4th level ecoregion coverage developed by EPA, delineate the landscape unit area in which the project site resides.
- d) Overlay surficial geology onto the 4th level ecoregion coverage. Using surficial geology units, sub-divide 4th level ecoregions into 5th level ecoregions and delineate the area of the 5th level ecoregion in which the project site resides.

PRODUCT:

- b) A GIS coverage of the 4th level ecoregion in which the project site lies.
- c) A GIS coverage of the 5th level ecoregion in which the project site lies.

Step 2. Establish Temporal Scales For Analysis

PURPOSE: Pre-development, current, and future land use coverages are essential to understanding the condition of existing natural resources on the project site and its impact area, compared to its pre-development reference condition. This information will be used to support more detailed site information needed to determine the condition and quality of on-site resources. Current and future build-out conditions will also be used to assess the potential candidate mitigation sites have to maintain function over time. Without an understanding of future build-out land use conditions, mitigation sites that are capable of maintaining environmental functions under current conditions, fail in the long-term when surrounding land use intensifies.

Step 2A. Create a Pre-development Coverage

PURPOSE: On initial step in mitigation decision-making requires core sets of data to understand current conditions of the impact area. Currently, site conditions are understood by assessing the condition of natural resources and the functions they provide. While this is an essential step in understanding current conditions of the impact area, it should not be the only tool used. An understanding of pre-development land cover provides the baseline conditions needed to assess current conditions at a landscape scale.

GIS COVERAGES/DATA NEEDED:

- a) Coverages of catchment, project, and impact areas.
- b) Geology coverage

TASKS:

- a) Identify the extent of the coverage area using the combined areas of the catchment, project, and impact areas.
- b) Determine if an existing pre-development coverage has been developed by local watershed planning groups.
- c) When an existing coverage is not available, compile the legal description for each section within the coverage area.
- d) Overlay the geology coverage onto the area to be assessed and use this information to provide insight into areas of potentially different vegetation communities.
- e) In historically forested parts of the state, access General Land Office (GLO) data in the Washington State Library and compile land cover vegetation information for each geologic mapping unit within the area of interest. GLO vegetation data includes tree/shrub species and tree/shrub diameter breast height (DBH) for each section corner, and each half- and quarter-mile section line. For small areas, all vegetation data should be compiled and entered in a spreadsheet. For larger areas, a sample of vegetation data by geologic unit can be compiled.
- f) Develop a GIS coverage that displays data in colored circles at each sample data point. Color circles green for coniferous and red for deciduous. Circle size should be scaled to the DBH of each sample tree. Group DBH size into 1-12 inch, 13-24 inch, 24-36 inch, and greater than 36 inch DBH.
- g) Compile available historic maps of stream systems and when available add to the pre-development land cover

coverage.

- h) For pre-development grassland areas, follow the same process using grassland communities.

PRODUCT:

- a) A GIS coverage of the pre-development land cover for the catchment, project, and impact areas.

Step 2B. Select a Current Land Use/Land Cover Coverage

PURPOSE: Current land use/land cover data is used to represent the existing conditions. This coverage will be used with the pre-development coverage to determine the relative extent of human alteration under current conditions. This coverage will also be used with the future build-out coverage to determine the relative extent of human alteration in the future.

TASKS:

- a) Using the WRIA and the largest scale of watershed characterize, contact local, state, federal, and tribe sources of land use/land cover data to determine data options.
- b) Select most current land use/land cover data that covered the WRIA. If data sets are not inclusive, create a composite data set using two or more coverages.
- c) When data is not available for portions of the WRIA, use aerial photos or other data sources to construct a complete land use/land cover data set for the WRIA.

PRODUCT:

- b) A GIS coverage of current land use/land cover for the project WRIA or WRIs.

Step 2C. Create a Future Build-out Land Use Coverage

PURPOSE: Conventional methods for identifying and assessing potential mitigation sites primarily focus on assessing a site's ability to mitigate project impacts under current conditions. This approach does that, but also seeks to understand the future development pressures that will influence a site's ability to maintain environment functions that need to be mitigated. Substantial evidence exists that surround land use can strongly influence how a site functions. This approach is intended to help resource managers gain a better understanding of a potential mitigation site's true capacity or potential to maintain environmental function and mitigate project impacts over the long-term. Resource impacts are assumed to be permanent. Mitigation sites must be selected that have the greatest potential to replace those lost functions over the long-term.

GIS COVERAGES/DATA NEEDED:

- a) Local jurisdiction Growth Management Act (GMA) Comprehensive Plans
- b) When GMA plans are unavailable, seek other local planning information/documents

TASKS:

- a) Compile available land use planning data and combine, when necessary, to develop a land use/land cover coverage of the project WRIA that shows where growth has and will occur in the future.

PRODUCT:

- a) A GIS coverage of a future build-out scenario for the project WRIA.

Step 3. Characterize Condition of Aquatic and Terrestrial Resources and the Ecological Processes That Support Them

PURPOSE: This step is intended to establish the location, extent, and condition of aquatic and terrestrial resources within each spatial scale. Information will be used to help understand the landscape-scale condition of aquatic and

terrestrial resources and establish a context for assessing mitigation options and alternatives. This step will also help identify where landscape-scale indicators of natural resource degradation exist at multiple scales, further providing context for understanding project impacts and mitigation opportunities.

GENERAL APPROACH: This step seeks to characterize the effects human land use on ecological processes and resulting aquatic and terrestrial resources. The ecological processes that this work will focus on include:

**Delivery and routing of water;
Delivery and routing of sediment;
Delivery and routing of nutrients/toxicants/bacteria;
Delivery and routing of large wood; and
Delivery and routing of heat.**

We assume that the alteration of these core ecological processes (or pathways) will result in a change in how a site will function (measured through an assessment of site indicators). While an assessment of indicators is important to understand the present condition of a site or landscape unit, to address the core problem, it is assumed that we will need to reverse the human land use effects on altered ecological processes.



Figure XX. Generalized Steps of Degradation

To often, past recovery efforts have focused on replacing the structural components, or indicators, of a functioning system, rather than addressing the core problem or problems. This approach seeks to better understand the relationship between land use change and the resulting change in ecological processes. This approach also seeks to understand the relationship between a change in ecological processes and the resulting change in site functions. This sequence was chosen to establish a link between degraded function and the core land use problems that may be miles for the actual project site. Long-term recovery will require the establishing of landscape pathways to target core problems causing degradation in function.

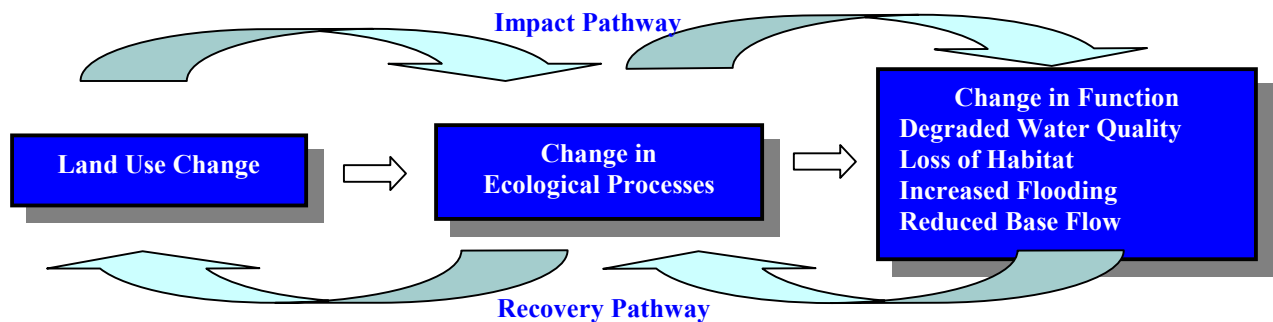


Figure XX. Long-term Recovery Will Require the Establishing of Landscape Pathways to Target Core Problems Causing the Degradation in Function

QUESTIONS TO ANSWER:

- Where did/where do aquatic and terrestrial resources exist within the project site, catchment area, impact area,

- sub-watershed, composite sub-watersheds, watershed, and 5th level ecoregion?
- a) What is the condition of existing aquatic and terrestrial resources, from a landscape perspective?

Step 3A. Determine the Location, Extent, and Condition of Wetland Resources.

PURPOSE: Identifying the location, extent, and condition of wetlands provides valuable insight into a landscape's capacity to store surface water, sediment, and nutrients/toxicants/bacteria. The location and extent of existing, degraded, and destroyed wetlands serve as the pool of potential mitigation sites for project impacts to wetlands.

GIS COVERAGES/DATA NEEDED:

- a) Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- b) GIS coverages for all spatial scales
- c) DNR or other soils survey
- d) US Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI)
- e) WA Department of Fish and Wildlife (WDFW) Priority Habitats and Species data (PHS)
- f) Local jurisdiction wetland coverages
- g) Available floodplain coverage
- h) Land use/Land cover

TASKS:

- a) Identify the location and extent of existing wetlands. Using NWI, DNR hydrography (codes 411 and 421), PHS data, and available local wetland inventories, overlay all wetland coverages and dissolve interior polygons to establish the greatest potential extent of existing wetlands. Evaluate the coverage for man-made wetlands and delete from the coverage. Sub-divide coverage by spatial scales.
- b) Identify the location and extent of pre-development wetlands. Acquire soils data and identify wetland soils (hydric soils with no upland soil inclusions and hydric soils with hydric soil inclusions) within all spatial scales. Overlay the existing wetland coverage onto the hydric soil polygons and dissolve all interior polygons to create the pre-development wetlands coverage.
- c) Use available wetland coverages to assess the extent of alteration (i.e., vegetative and hydrologic alteration) to existing wetlands. When site specific information is not available, develop general assumptions of alteration from soil survey data and land use type. Develop a coverage and spreadsheet summarizing the location and extent of existing wetlands hydrologically- and vegetatively-altered.
- d) Compare pre-development and existing wetland coverages and estimate the percent of hydrologic and vegetative wetland alteration at all spatial scales. (Use to assess landscape indicators 6 and 12 in Table 1)
- e) Calculate the percent of area in wetlands for each spatial scale under pre-development and current conditions. Identify spatial scales where percent wetland area is equal to or greater than 10%. (Use to assess landscape indicator 6 in Table 1)
- f) Identify the location and extent of wetlands that were historically connected to a stream system and accessible to juvenile salmonids. Determine the percent of historic and existing wetlands that now are inaccessible to salmonids. (Use to assess landscape indicator 3 in Table 2)

PRODUCTS:

- a) Maps showing the location and extent of pre-development and existing wetlands
- b) Spreadsheet and map that depicts the location and extent of wetlands and wetland alteration for all spatial scales.

Step 3B. Determine the Location, Extent, and Condition of Floodplain/Riparian Resources.

PURPOSE: Identifying the location, extent, and condition of floodplain/riparian resources provides valuable insight into a landscape's capacity to store surface water, sediment, large wood, and nutrients/toxicants/bacteria. The proportion of functioning vs. non-functioning floodplains provides additional insight into potential mitigation sites for project impacts to floodplains.

GIS COVERAGES/DATA NEEDED:

- a) Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- b) GIS coverages for all spatial scales
- c) Available floodplain coverage
- d) DNR or other soils survey
- e) GIS coverages of dikes, levees, and rip rap
- f) SSHIAP or other data sets on stream and riparian condition
- g) Land use/Land cover

TASKS:

- a) Identify the location and extent of riparian/floodplain areas using available coverages and data.
- b) Establish condition of floodplains within all spatial scales. Using the floodplain coverage and the dike, levee, and rip rap coverages, calculate the proportion of floodplain that is decoupled from the stream (area behind dikes or levees), confined (channel locked in place by rip rap at high energy bends), and free flowing (channel is free to migrate across floodplain) Calculate the percent of channel length decoupled and confined at each spatial scale. (Use to assess landscape indicators 5 and 10 in Table 1 and landscape indicator 1 in Table 2)
- c) Establish the condition of riparian areas within all spatial scales. Use SSHIAP or other similar data on riparian condition, if available. If not, use the DNR hydrography coverage with the land use/land cover coverage to identify the location and extent of forested riparian canopy within all spatial scales. Calculate the percent of riparian zone currently in a mature condition. (Use to assess landscape indicators 13 and 16 in Table 1)

PRODUCTS:

- a) Map showing the location and extent of floodplain alteration.
- b) A spreadsheet and map that depicts the location, extent, and condition of riparian areas within all spatial scales.

Step 3C. Determine the Location, Extent, and Condition of Stream Resources.

PURPOSE: Identifying the location, extent, and condition of stream systems provides valuable insight into the drainage systems overall condition.

GIS COVERAGES/DATA NEEDED:

- a) Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- b) GIS coverages for all spatial scales
- c) Historic maps or information on pre-development stream networks
- d) 303(d) listed water bodies
- e) Available floodplain coverage
- f) GIS coverages of dikes, levees, and rip rap
- g) SSHIAP or other data sets on stream and riparian condition
- h) Land use/Land cover
- i) Coverage of all roads

TASKS:

- a) Acquire and compare pre-development and current catchment area and stream length.
- b) Calculate the percent change in historic and current stream length for each spatial scale. (Use to assess landscape indicator 1 in Table 1)
- c) Using current and predevelopment stream networks, identify where the stream channel has been straightened and calculate the percent of stream length straightened for each spatial scale. (Use to assess landscape indicators 4 and 9 in Table 1)
- d) Using the hydrography and roads coverages, calculate the average number of stream crossings by land use type. (Use to assess landscape indicator 14 in Table 1 and landscape indicator 2 in Table 2)
- e) Establish the water quality condition of streams within all spatial scales. Overlay the 303(d) listed water body coverage onto the DNR hydrography coverage and highlight stream reaches with documented water quality problems and label with the parameter(s) that exceed water quality standards. Calculate the number and extent of 303(d) listed water bodies for each spatial scale. (Use to assess landscape indicators 11 and 15 in Table 1)

PRODUCTS:

- a) Maps displaying the location and extent of channel alteration.
- b) Spreadsheet and map that depicts the number and location of stream reaches that exceed water quality standards.

Step 3D. Characterize Terrestrial Conditions That Influence Ecological Processes

PURPOSE: The condition of terrestrial resources can have a substantial impact on ecological processes. This step will characterize key landscape attributes of terrestrial systems and then use that information to help understand where ecological processes have been altered.

GIS COVERAGES/DATA NEEDED:

- a) Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- b) GIS coverages for all spatial scales
- c) Land use/Land cover
- d) Coverage of all roads

TASKS:

- a) Establish an average percent Total Impervious Area (TIA) for each land use type. Calculate percent TIA for all spatial scales. (Use to assess landscape indicators 2 and 18 in Table 1)
- b) Calculate percent forest land cover for all spatial scales. (Use to assess landscape indicator 3 in Table 1)
- c) Establish a percent for each land use type having a brown field or disturbed soil condition. Calculate the percent of each spatial scale in a brown field condition. (Use to assess landscape indicator 7 in Table 1)
- d) Establish an average road density for each land use type. Calculate the average road density for all spatial scales. (Use to assess landscape indicators 8 and 17 in Table 1)

PRODUCTS:

- a) Spreadsheet and maps displaying the location and extent of alteration to selected terrestrial areas.

Step 3E. Stratify Each Landscape Scale into Lithotopo Units

PURPOSE: Lithotopo units are landscape areas having similar lithology and topography. This stratification step is using here to gain a general understanding of the physical capacity/constraints of each landscape unit to deliver and route water, sediment, nutrients/toxicants/bacteria, large wood, and heat through the system. For example, some lithotopo units support large unconfined aquifers that provide substantial groundwater discharge to a stream. This large volume of groundwater discharge to a stream functions to maintain stream base flow and desirable stream temperatures. Other lithotopo units have much less ability to store and discharge cold water to the stream during summer low flow conditions. Landscapes are complex units that result in a recovery action working in one area and failing in another. Landscape stratification seeks to understand these differences in a very basic way that will result in better mitigation decision-making.

GIS COVERAGES/DATA NEEDED:

- a) Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- b) GIS coverages for all spatial scales
- c) Geology
- d) USGA topography
- e) EPA 4th level ecoregion coverage.

TASKS:

- a) Determine if lithotopo units have been used to stratify all or part of the watershed. When available, map this information or, expand methods to the unstratified part of the watershed.
- b) When the watershed has not been sub-divided into lithotopo units, use geology and topography coverages to stratify each landscape scale.

- c) Characterize general constraints on ecological processes for each lithotopo unit and establish key drivers for each ecological process.

PRODUCT:

- a) A coverage identifying lithotopo units for each spatial scale.
- b) A description of each lithotopo unit and a characterization of effects on ecological processes.

Step 3F. Characterize the Condition of Ecological Processes That Support Aquatic and Terrestrial Resources at Landscape Scales

PURPOSE: Characterizing the condition of ecological processes at a landscape scale helps to understand core problems at the landscape scale that are influencing a site's capability to provide and maintain functions. The purpose of this step is to synthesize available data and identify landscape-scale pathways and indicators that characterize the condition of each spatial scale and assist in developing recovery priorities.

GIS COVERAGES/DATA NEEDED:

- a) Available watershed assessments of human impacts to ecological processes.
- b) All coverages and data developed in 3A through 3E

TASKS:

- a) Submit Table 1 to permitting agencies for peer review.
- b) Determine if a quantitative landscape-scale assessment of ecological processes has been done for the watershed. When available, use this information to complete appropriate parts of the matrix of landscape-scale pathways and indicators (Table 1).
- c) When quantifiable data is not available, use information compiled in Steps 3A to 3E to complete the matrix of landscape-scale pathways and indicators (Table 1).

PRODUCT:

- a) A summary of the condition of ecological processes at each spatial scale.

Table 1. Matrix of Landscape Scale Pathways and Indicators.

Ecological Process	Landscape Indicator	Effect	Applicable Lithotopo Units	Properly Functioning	At Risk	Not Properly Functioning
Delivery of Water to a Stream System	1) % Change in Drainage Network	Reduces Delivery Time; Habitat Degradation	All Units	Zero or minimal increases (<5%) in drainage network density due to development	Moderate increases (5% to 20%) in drainage network density due to development	Substantial increase (>20%) in drainage network density due to development
	2) % Total Impervious Area	Reduces Delivery Time; Increases Amount of Water Delivered; Habitat Degradation	All Units	5% or less total impervious area	>5% and <15% total imperious area	15% or more total impervious area
	3) Percent Forest Land Cover	Reduces Delivery Time; Increases Amount of Water Delivered; Habitat Degradation	All Units	>65% of area in mature forested land cover and non-forested areas scattered throughout	50% to 65% of area in mature forested land cover with some larger areas of non-forest land cover	<50% in mature forested land cover with large continuous areas of non-forest land cover
	4) % Up-slope Wetlands Having Hydrology Altered	Reduces Delivery Time; Habitat Degradation	Only when Up-slope areas historically contained 10% or more in wetlands	<10% of historic up-slope wetland area has hydrology altered	10 to 25% of historic up-slope wetland area has hydrology altered	>25% of historic up-slope wetland area has hydrology altered
Routing of Water Through a Stream System	5) % of Channel Length Straightened	Reduced Routing Time; Habitat Degradation	All Units	Zero or minimal increases (<5%) of natural drainage network straightened	Moderate increases (5% to 20%) in natural drainage network straightening	Substantial increase (>20%) in drainage network straightening
	6) % of Floodplain Decoupled from Stream	Reduced Routing Time; Habitat Degradation	Only units with unconfined or partially confined channel	Zero or minimal increases (<5%) in decoupled floodplain	Moderate increases (5% to 20%) in decoupled floodplain	Substantial increase (>20%) in decoupled floodplain
Delivery of Sediment to a Stream System	7) % of Brown Fields in Non-forest Areas	Increased Fine Sediment Inputs; Habitat Degradation	All Units	<5% of area in a brown field condition	5-15% of area in a brown field condition	>15% of area in a brown field condition

Ecological Process	Landscape Indicator	Effect	Applicable Lithotopo Units	Properly Functioning	At Risk	Not Properly Functioning
	8) Road Density	Increased Fine and Coarse Sediment Inputs; Habitat Degradation	All Units	Road densities <2 miles/square mile	Road densities of 2-3 miles/square mile	Road densities >3 miles/square mile
Routing of Sediment Through a Stream System	9) % of Channel Length Straightened	Reduced Routing Time; Habitat Degradation	All Units	Zero or minimal increases (<5%) of natural drainage network straightened	Moderate increases (5% to 20%) in natural drainage network straightening	Substantial increase (>20%) in drainage network straightening
	10) % of Floodplain Decoupled from Stream	Reduced Routing Time; Reduced Access to Habitat	Only units with unconfined or partially confined channel	Zero or minimal increases (<5%) in decoupled floodplain	Moderate increases (5% to 20%) in decoupled floodplain	Substantial increase (>20%) in decoupled floodplain
Delivery and Routing of Nutrients, Toxicant, and Bacteria to a Stream System	11) Extent of 303(d) Listed Water Bodies for Nutrients, Toxicants, and Bacteria	Documented Water Quality Problem	All Units	Area meets water quality standards for all parameters. No excess nutrients or toxicity.	Water quality in the area has one parameter that exceeds water quality criteria by 10% or greater	More than one parameter exceeds water quality criteria by 10% or greater. Sub-lethal and lethal effects from toxics.
	12) Condition and extent of Up-slope Wetlands	Loss of assimilative capacity	Primarily areas having minimal groundwater recharge capability	Historic up-slope wetland area greater than 5% and <25% of wetlands have been drained or hydrologically altered	Historic up-slope wetland area greater than 5% and 25 to 40% of wetlands have been drained or hydrologically altered	Historic up-slope wetland area greater than 5% and >40% of wetlands have been drained or hydrologically altered
Delivery of Large Wood to a Stream System	13) % of Riparian Zone in Mature Condition	Source of Large Wood to the Stream System; Habitat Degradation	All Units	75% of riparian at least SPTH in width and 85% of overall riparian zone in forest or wetland cover	50-75% of riparian at least SPTH in width and 50-85% of overall riparian zone in forest or wetland cover	<50% of riparian at least SPTH in width and <50% of overall riparian zone in forest or wetland cover

Ecological Process	Landscape Indicator	Effect	Applicable Lithotopo Units	Properly Functioning	At Risk	Not Properly Functioning
Routing of Large Wood Through a Stream System	14) Stream Crossings/Kilometer	Blocks Routing of Large Wood and Facilitates Removal from System; Habitat Degradation	All Units	<2 stream crossings per kilometer of stream	2 to 4 stream crossings per kilometer of stream	>4 stream crossings per kilometer of stream
Delivery and Routing of Heat to a Stream System	15) Extent of 303(d) Listed Water Bodies for Temperature	Identifies Problem Areas but Does Not Address Causes; Habitat Degradation	All Units	Area meets water quality standards for temperature	Water quality in the area has one parameter that exceeds water quality criteria by 10% or greater	Temperature parameter exceeds water quality criteria by 10% or greater.
	16) % of Riparian Zone with Mature Canopy	Increase in Solar Energy to Stream; Habitat Degradation	Stream width >XX feet or units with significant groundwater discharge excluded	75% or more of channel with riparian canopy intact and no large continuous stretches of open canopy	50 to 75% of riparian canopy intact but having some continuous stretches of open canopy	Riparian canopy fragmented, >50% and contains large continuous stretches with no canopy
	17) Road Density	Reduced Stream ; Habitat Degradation Depth	Stream width >XX feet or stream order X or less only	Road densities <2 miles/square mile	Road densities of 2-3 miles/square mile	Road densities >3 miles/square mile
	18) % Total Impervious Area	Change in Groundwater Recharge/Discharge; Habitat Degradation	Primarily Units with a Surficial Aquifer	5% or less total impervious area	>5% and <15% total imperious area	15% or more total impervious area

Step 4. Characterize Condition of Fish and Wildlife Resources and the Ecological Processes That Support Them

PURPOSE: This step is intended to help managers understand the landscape-scale condition of fish and wildlife resources and establish a context for assessing mitigation options and alternatives. This step will also help identify where landscape-scale indicators of fish and wildlife habitat degradation exist at multiple scales, further providing context for understanding project impacts and mitigation opportunities.

QUESTIONS TO ANSWER:

- Where did/where do fish and wildlife resources exist within the project site, catchment area, impact area, sub-watershed, composite sub-watersheds, watershed, and 5th level ecoregion?
- What is the condition of existing fish and wildlife habitat resources, from a landscape perspective?
- Where are there indications that land use levels have exceeded the capacity of the natural system to assimilate land use change?

Step 4A. Establish the Location and Extent of Pre-development Fish and Wildlife Resources Within Each Spatial Scale.

PURPOSE: The location and extent of pre-development fish and wildlife habitat within the WRIA serve as the largest pool of potential habitat mitigation sites. Identifying these resources is the first step to selecting potential mitigation sites.

GIS COVERAGES/DATA NEEDED:

- Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- GIS coverages for all spatial scales
- Pre-development land cover coverage
- Available data on fish and wildlife distribution by species
- GAP Analysis data

TASKS:

- Compile available information on fish and wildlife species occurrence under pre-development conditions.
- Using existing coverages and data, map and understand the extent of species distribution and the resulting areas of high biodiversity within each spatial scale.
- Using species distribution maps and the pre-development land cover coverage, identify the extent of habitat connectivity and major wildlife travel corridors within each spatial scale.

PRODUCTS:

- Maps of pre-development species distribution within all spatial scales.
- Map displaying areas of high biodiversity under pre-development conditions.
- Map or narrative description of the extent of habitat connectivity under pre-development conditions.

Step 4B. Establish the Location, Extent, and Condition of Existing Fish and Wildlife Resources Within Each Spatial Scale.

PURPOSE: The location and extent of existing fish and wildlife habitat is compared with the pre-development fish and wildlife habitat coverages to provide an understanding of habitat degradation at a landscape scale. This information will also be a valuable tool when selecting potential mitigation sites.

GIS COVERAGES/DATA NEEDED:

- Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- GIS coverages for all spatial scales
- WA Department of Fish and Wildlife (WDFW) Priority Habitats and Species data (PHS)

- d) Available data sets on fish and wildlife distribution and abundance
- e) Available assessments of critical habitat (i.e., Ecosystem Diagnosis and Treatment)
- f) GAP Analysis data

TASKS:

- a) Compile available information on existing fish and wildlife species occurrence.
- b) Use existing coverages and data, map areas of high biodiversity within each spatial scale.
- c) Compare pre-develop and existing species distribution and high biodiversity areas. Within high biodiversity areas, identify areas of where species distribution and biodiversity have experienced high, moderate, and low impacts due to human land use. (Use to assess landscape indicator 5 in Table 2)
- d) Using species distribution maps, current land use/land cover coverage, and the coverage of pre-development habitat connectivity and travel corridors, identify areas that currently provide a habitat connectivity function and serve as wildlife travel corridors within each spatial scale. (Use to assess landscape indicator 6 in Table 2)
- e) Use available data to understand the location, extent, and condition of habitats for priority fish and wildlife species.
- f) Use recovery plans, management plans, PHS, and other information sources to identify core refugia areas and important habitat types (i.e., heron rookeries, communal bat roosts) that provide essential species habitat. (Use to assess landscape indicator 4 in Table 2)

PRODUCTS:

- a) Maps of current species distribution within all spatial scales.
- b) Map displaying areas of high biodiversity under existing land cover conditions.
- c) Map or narrative description of the extent of habitat connectivity under pre-development conditions.
- d) Maps displaying the location, extent, and condition of priority species and their habitats.

Step 4C. Establish the Location, Extent, and Condition of ESA Listed Fish and Wildlife Habitats Within Each Spatial Scale.

PURPOSE: Recognizing the location, extent, and condition of ESA listed species and their habitats is a critical first step in mitigating for unavoidable transportation impacts. This information will also be a valuable tool when selecting potential mitigation sites.

GIS COVERAGES/DATA NEEDED:

- a) Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- b) GIS coverages for all spatial scales
- c) ESA listed species
- d) Available ESA recovery plans and data
- e) SSHIAP
- f) Limiting factors analysis
- g) Available assessments of critical habitat (i.e., Ecosystem Diagnosis and Treatment)

TASKS:

- a) Compile and map available information on ESA listed species and their habitats occurring at each spatial scale.
- b) Use existing coverages and data, map areas of high habitat diversity within each spatial scale.
- c) Compare the distribution of ESA listed species under pre-develop and existing conditions. Identify areas of where species distribution and biodiversity have experienced high, moderate, and low impacts. (Use to assess landscape indicator 5 in Table 2)
- d) Using species distribution maps, current land use/land cover coverage, and the coverage of pre-development habitat connectivity and travel corridors, identify areas that currently provide a habitat connectivity function and serve as travel/migration corridors within each spatial scale. (Use to assess landscape indicator 6 in Table 2)
- e) Identify the location and extent of fish passage barriers. (Use to assess landscape indicator 2 in Table 2)
- f) Use recovery plans, management plans, and other information sources to identify core refugia areas and important habitat types that serve as critical species habitat. (Use to assess landscape indicator 4 in Table 2)

PRODUCTS:

- a) Maps of current distribution and habitat of ESA listed species within each spatial scale.
- b) Map displaying areas of high habitat diversity.
- c) Map or narrative description of the areas experiencing high, moderate, and low impacts.

Step 4E. Characterize the Condition of Ecological Processes That Support Fish and Wildlife Resources at Landscape Scales

PURPOSE: Characterizing the condition of ecological processes at a landscape scale helps to understand core problems at the landscape scale that are influencing a site's capability to provide and maintain habitat functions for fish and wildlife. The purpose of this step is to synthesize available data and identify landscape-scale pathways and indicators that characterize the condition of each spatial scale and assist in developing recovery priorities.

GIS COVERAGES/DATA NEEDED:

- a) Available watershed assessments of human impacts to ecological processes.
- b) All coverages and data developed in 3A through 3E

TASKS:

- a) Submit Table 2 to permitting agencies for peer review.
- b) Determine if a quantitative landscape-scale assessment of habitat conditions has been done for the watershed. When available, use this information to complete appropriate parts of the matrix of landscape-scale habitat pathways and indicators (Table 2).
- c) When quantifiable data is not available, use information compiled in Steps 4A to 4D to complete the matrix of landscape-scale habitat pathways and indicators (Table 2).
- d) Merge results from the two matrices in Tables 1 and 2 to get a more complete picture of habitat degradation potential.

PRODUCT:

- a) A summary of the condition of ecological processes that effect fish and wildlife resources at each spatial scale.

Table 2. Matrix Addendum of Landscape Scale Habitat Pathways and Indicators for ESA Listed Species.

Ecological Process	Landscape Indicator	Effect	Applicable Lithotopo Units	Properly Functioning	At Risk	Not Properly Functioning
Habitat for ESA Listed Species	1) Proportion of stream channel confined from migrating across the floodplain	Loss of Floodplain Channel Complexity; Habitat Degradation	Only floodplain areas with unconfined or partially confined channels	<5% of channel length having high energy river bends confined by armoring or dikes	5 to 25% of channel having high energy river bends confined by armoring or dikes	>25% of channel having high energy river bends confined by armoring or dikes
	2) Stream Crossings/Kilometer; Number of Fish Passage Barriers	Restrictions to Fish Passage	All Units	No artificial hydraulic constrictions (culverts, bridges, dams) that disrupt upstream and downstream year-round migration of juvenile and adult salmon	Hydraulic constrictions exist but allow for year-round access to at least 80% of potential spawning and rearing habitat	Hydraulic constrictions exist and limits access to greater than 20% of potential spawning and rearing habitat
	3) Condition of wetlands historically accessible to ESA listed fish species	Degradation of Off-channel Rearing Habitat	All Units	>95% of historic connecting wetland capacity present and unaltered	70-95% of historic connecting wetland capacity present and unaltered	<70% of historic connecting wetland capacity present and unaltered
	4) Refugia	A Stable Source of Habitat	All Units	Habitat refugia exist and are adequately buffered (e.g., by intact riparian reserves); existing refugia sufficient in size, number and connectivity to maintain viable populations	Habitat refugia exist but are not adequately buffered (e.g., by intact riparian reserves); existing refugia are insufficient in size, number, and connectivity to maintain viable populations	Adequate habitat refugia do not exist

Ecological Process	Landscape Indicator	Effect	Applicable Lithotopo Units	Properly Functioning	At Risk	Not Properly Functioning
	5) Level of Biodiversity	Degradation of areas of high habitat function	All Units	Level of biodiversity has not changed from pre-development to current conditions	Level of biodiversity has experienced some level of decline	Level of biodiversity has experienced a substantial decline
	6) Level of Habitat Connectivity	Risk of Habitat Isolation	All Units	Level of habitat connectivity has experienced minimal change from pre-development condition	Level of habitat connectivity has experienced minimal change in primary migration routes but some degradation in secondary routes	Both primary and secondary migrations routes have experienced substantial degradation

Step 5. Identify Target Landscape Areas for

PURPOSE: This step synthesizes watershed characterization information developed earlier into a series of screens that identify landscape areas having the greatest potential to: a) mitigate transportation impacts; b) maximize environmental benefit while reducing mitigation cost; and c) ensure long-term viability of functions mitigated.

ASSUMPTIONS:

- a) It is assumed that threshold levels exist within land use attributes. It is further assumed that when threshold levels are reached there is some degree of accelerated degradation to ecological processes at landscape scales and a resulting loss of function at the site or reach scale.
- b) It is assumed that Growth Management Act comprehensive plans will be effective at directing future into defined areas.
- c) It is assumed that surrounding land use will have both direct and indirect impacts to a mitigation site. It is further assumed that as land use around a mitigation site intensifies, the potential for that site to maintain existing functions declines.

QUESTIONS TO BE ANSWERED:

- a) Where can ecological processes be restored to mitigate unavoidable transportation impacts?
- b) Do landscape indicators have degradation thresholds? If so, at what point do these landscape indicators experience the greatest decline in environmental benefit?
- c) Where can mitigation costs be minimized?
- d) Where can restored functions have the greatest potential to be maintained in the long-term.

Step 5A. Identify Landscape Areas Within Each Spatial Scale With Altered Ecological Processes Capable of Mitigating Project Impacts.

PURPOSE: In-kind mitigation has been identified in the Alternative Mitigation Guidance (XXXX) as the preferred form of off-site mitigation. This step seeks to identify areas within the watershed having land use impacts to in-kind processes.

GIS COVERAGES/DATA NEEDED:

- a) Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- b) GIS coverages for all spatial scales
- c) All coverages and data developed in Part I, Step 11 and Part II, Step 3
- d) Land use/Land cover

TASKS:

- a) Using the information developed in Part I, Step 11 and the matrix of landscape pathways and indicators, identify the target landscape attributes of ecological processes that need to be targeted for mitigation.
- b) Select drainages meeting criteria and highlight for further assessment.

PRODUCT:

- a) GIS coverage of drainages having land use impacts to targeted ecological processes.

Step 5B. Identify Landscape Areas Within Each Spatial Scale That Meet Target Threshold Criteria

PURPOSE: To maximize environmental benefit, mitigation efforts should target drainages where land use intensity is approaching, has reached, or has just exceeded threshold criteria for core ecological processes that need to be mitigated. This step identifies drainages meeting these criteria.

GIS COVERAGES/DATA NEEDED:

- a) GIS coverages for all spatial scales
- b) All coverages and data developed in Part II, Step 3, Tables 1 and 2
- c) Land use/Land cover data

TASKS:

- c) Using information developed in Step 5A, identify drainages where target landscape attributes are in the "at risk" category.
- d) Select drainages meeting criteria and highlight for further assessment.

PRODUCT:

- b) GIS coverage of drainages having land use impacts that place target ecological processes at risk of degradation.

Step 5C. Identify Landscape Areas Within Each Spatial Scale Having the Greatest Potential to Maintain Function in the Long-term

PURPOSE: This step is intended to identify areas where mitigation can provide the required functions under both current and future land use scenarios. To often, mitigation sites are selected for their ability to provide needed functions under existing conditions at the site. If substantial growth or development is planned for this area, some functions may not be maintained, leading to environmental degradation. By considering both current and anticipated future land use pressure on each potential mitigation site, managers have the greatest potential to selecting sites providing functions capable of being maintained in the future.

GIS COVERAGES/DATA NEEDED:

- a) Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- b) GIS coverages for all spatial scales
- c) All coverages of temporal scales developed in Part II. Step 2 above

TASKS:

- a) Using information developed in Step 5B identifying drainages that meet target threshold criteria, overlay the future build-out scenario.
- b) Identify drainages where land use intensity does not change appreciably. Evaluate matrix of landscape pathways and indicators and assess which areas maintain current ranking (i.e., properly functioning, at risk, not properly functioning).
- c) Select drainages meeting criteria and highlight for further assessment.

PRODUCT:

- c) GIS coverage of drainages having the greatest potential to maintain function in the long-term.

Step 5D. Combine All Criteria and Identify Priority Landscape Areas for Mitigation

PURPOSE: Synthesize information developed in Part II, Step 5.

GIS COVERAGES/DATA NEEDED:

- a) GIS coverages for all spatial scales
- b) Coverages developed in Part II, Steps 5A-5C

TASKS:

- a) Overlay coverages developed in Part II, Steps 5A-5C, and identify drainages meeting all three criteria.
- b) Establish a coverage that identifies target areas for mitigation within all spatial scales.

PRODUCT:

- a) A GIS coverage that shows target areas for mitigation within all spatial scales.

Step 6. Identify Target Resource Areas for

PURPOSE: Step 5 identified the drainages to be targeted for mitigation based on capacity to maximize overall environmental benefit. Step 6 builds on this information by identifying priority resource areas within targeted drainages that are capable of addressing water quantity, water quality, and habitat problems.

QUESTIONS TO BE ANSWERED:

- a) Where do priority fish and wildlife habitat recovery areas exist within target drainages?
- b) Where do priority water quality recovery areas exist within target drainages?
- c) Where do priority water quantity recovery areas exist within target drainages?

Step 6A. Identify Priority Fish and Wildlife Habitat Recovery Areas Within Each Spatial Scale.

PURPOSE: This step identifies key fish and wildlife habitat recovery areas within target drainages.

GIS COVERAGES/DATA NEEDED:

- a) Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- b) GIS coverages for all spatial scales
- c) Limiting factors analysis
- d) All coverages and data developed in Part II, Step 3, Tables 1 and 2
- e) Local watershed planning priority fish and wildlife habitat recovery areas

TASKS:

- a) Identify priority fish and wildlife habitat recovery areas identified in local watershed planning efforts within target drainages (identified in Part II, Step 5). Highlight identified areas.
- b) Identify limiting factors within target drainages and potential recovery areas to address each limiting factor. Highlight identified areas.
- c) Using information from Part II, Step 3, Tables 2, identify areas that are "at risk" for habitat degradation. Highlight identified areas.
- d) Combine highlighted areas identified in a through c above to identify areas within target drainages having greatest potential to improve fish and wildlife habitat.

PRODUCT:

- a) A GIS coverage identifying areas within target drainages having greatest potential to improve fish and wildlife habitat.

Step 6B. Identify Priority Water Quality Recovery Areas Within Each Spatial Scale.

PURPOSE: This step identifies key water quality recovery areas within target drainages.

GIS COVERAGES/DATA NEEDED:

- a) Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- b) GIS coverages for all spatial scales
- c) 303(d) listed water bodies
- d) Areas having established TMDL
- e) All coverages and data developed in Part II, Step 3, Table 1

TASKS:

- a) Identify priority water quality recovery areas in local watershed planning efforts (including TMDLs) within target drainages (identified in Part II, Step 5). Highlight identified areas.

- b) Identify 303(d) listed water bodies within target drainages that align with water quality attributes that need to be mitigated. Highlight identified areas.
- c) Model loading rates of targeted water quality attributes up-stream of the project area. Determine where opportunities exist for mitigating each water quality attribute.
- d) Combine highlighted areas identified in Task a through Task c above to identify areas within target drainages having greatest potential to improve targeted water quality attributes.

PRODUCT:

- a) A GIS coverage identifying areas within target drainages having greatest potential to improve targeted water quality attributes.

Step 6C. Identify Priority Areas Experiencing Increased Peak Flows and Declining Stream Base Flows Within Each Spatial Scale.

PURPOSE: This step identifies key water quantity recovery areas within target drainages.

GIS COVERAGES/DATA NEEDED:

- a) Department of Natural Resources (DNR) 1:24,000 WRIA boundary coverage
- b) GIS coverages for all spatial scales
- c) Land use/Land cover
- d) All coverages and data developed in Part II, Step 3, Table 1
- f) Local watershed planning priority water quantity recovery areas

TASKS:

- a) Identify priority water quantity recovery areas in local watershed planning efforts within target drainages (identified in Part II, Step 5). Highlight identified areas.
- b) Using information from Part II, Step 3, Tables 1, identify areas that are "at risk" or "not properly functioning" for water quantity attributes. Highlight identified areas.
- c) Combine highlighted areas identified in a and b above to identify areas within target drainages having greatest potential to improve problems associated with water quantity.

PRODUCT:

- a) This step identifies key water quantity recovery areas within target drainages.

Step 6D. Combine All Priority Recovery Areas and Identify Priority Resource Areas for Mitigation.

PURPOSE: Incorporate information developed in Step 6A-6C.

GIS COVERAGES/DATA NEEDED:

- a) Highlighted areas identified in Steps 6A-6C

TASKS:

- a) Overlay highlighted areas identified in Steps 6A-6C.
- b) Establish a coverage that identifies highlighted resource recovery areas within target drainages.

PRODUCT:

- b) A GIS coverage that shows highlighted areas identifying priority resource recovery areas within target drainages.

Step 7. Identify Target Land Use Types for

PURPOSE: Step 5 identifies target drainages for mitigation, while Step 6 identifies core problem areas within each

target drainage. Step 7 continues this focusing process by identifying land uses that are known to cause or contribute to core problem areas.

QUESTIONS TO BE ANSWERED:

- a) What land use types are known to adversely effect water quantity, water quality, and fish and wildlife habitat within target drainages?

Step 7A. Identify Land Uses That Alter Target Ecological Processes.

PURPOSE: To address core problems and restore functions at a site or reach scale, managers need to focus recovery efforts on human land use alteration that adversely effects ecological processes at landscape scales.

GIS COVERAGES/DATA NEEDED:

- a) GIS coverages developed in Part II, Steps 5 and 6
- b) Land use/Land cover

TASKS:

- a) Permitting agencies peer review Table 3 and revise as needed.
- b) Overlay the target drainage and priority resource area coverages (from Steps 5 and 6) onto the land use/land cover coverage.
- c) Identify the land use types occurring on each priority resource area.

PRODUCT:

- a) A list of land use types to be targeted for each priority resource area within targeted drainages.

Table 3. General Land Use Effects on Ecological Processes

LAND USE	EFFECTED ECOLOGICAL PROCESSES/CAUSE
Commercial Timber Production (and associated roads)	<i>Water</i> - land clearing, soil compaction
	<i>Sediment</i> - mass wasting
	<i>Large Wood</i> - riparian clear cuts, road crossings
	<i>Heat</i> - riparian clear cuts
Agricultural Practices	<i>Water</i> - land clearing, soil compaction, wetland drainage, floodplain dikes, levees, rip rap
	<i>Nutrients/Toxicants/Bacteria</i> - increased loading, loss of assimilative capacity due to wetland and riparian alteration
	<i>Sediment</i> - increased fine sediment loading via erosion and loss of assimilative capacity due to wetland and riparian alteration
	<i>Large Wood</i> - riparian clearing, floodplain dikes, levees, rip rap
	<i>Heat</i> - riparian clearing on shade driven streams, land drainage on groundwater driven streams
Residential	<i>Water</i> - increased total impervious area, land clearing, soil compaction, wetland drainage, floodplain dikes, levees, rip rap, increased channel network
	<i>Nutrients/Toxicants/Bacteria</i> - increased loading, loss of assimilative capacity due to wetland and riparian alteration
	<i>Sediment</i> - increased fine sediment loading via erosion and loss of assimilative capacity due to wetland and riparian alteration
	<i>Large Wood</i> - riparian clearing, floodplain dikes, levees, rip rap, road crossings
	<i>Heat</i> - riparian clearing on shade driven streams, land drainage and increased total impervious area on groundwater driven streams
Commercial/Industrial	<i>Water</i> - increased total impervious area, land clearing, soil compaction, wetland drainage, floodplain dikes, levees, rip rap, increased channel network
	<i>Nutrients/Toxicants/Bacteria</i> - increased loading, loss of assimilative capacity due to wetland and riparian alteration
	<i>Sediment</i> - increased fine sediment loading due to hard surfaces and loss of assimilative capacity due to wetland and riparian alteration
	<i>Large Wood</i> - riparian clearing, floodplain dikes, levees, rip rap, road crossings
	<i>Heat</i> - riparian clearing on shade driven streams, land drainage and increased total impervious area on groundwater driven streams

Step 8. Identify Candidate Mitigation Sites.

PURPOSE: This step concludes the watershed characterization by identifying potential mitigation sites.

QUESTION TO BE ANSWERED:

- a) Where do potential mitigation sites exist within focus areas?

Step 8A. Identify Local Watershed Priority Sites Within Target Areas.

PURPOSE: Local watershed planning efforts that have identified priority areas for recovery with focus areas warrant strong consideration as a potential mitigation site.

GIS COVERAGES/DATA NEEDED:

- b) GIS coverages for all spatial scales
- c) GIS coverage developed in Part II, Step 5 that identifies target drainages for mitigation
- d) GIS coverage developed in Part II, Step 6 that identifies core problem areas within each target drainage
- e) GIS coverages developed by local watershed planning efforts that prioritize recovery sites.

TASKS:

- a) Overlay all coverages and identify local watershed recovery sites that occur within core problem areas within target drainages.
- b) Develop a coverage of potential mitigation sites derived from local watershed planning efforts.

PRODUCT:

- b) A GIS coverage of potential mitigation sites derived from local watershed planning efforts.

Step 8B. Identify Potential Mitigation Sites Within Target Areas.

PURPOSE: Increase the number of potential mitigation sites for site specific assessment.

GIS COVERAGES/DATA NEEDED:

- a) GIS coverages for all spatial scales
- b) GIS coverage developed in Part II, Step 5 that identifies target drainages for mitigation
- c) GIS coverage developed in Part II, Step 6 that identifies core problem areas within each target drainage
- d) GIS coverage developed in Part II, Step 7 that identifies land uses to be targeted for recovery actions
- e) Land use/Land cover data
- f) Site specific information from Part II, Step 3
- g) Aerial photography

TASKS:

- a) Identify areas of targeted land use types within core problem areas of target drainages.
- b) With an understanding of mitigation requirements, use site specific information on aquatic, terrestrial, and fish and wildlife habitat resources developed in Part II, Step 3 to identify sites having potential to mitigate project impacts.
- c) Develop a list of potential mitigation sites.
- d) Merge these sites into the existing GIS coverage of potential mitigation sites identified in Part II, Step 8A above.

PRODUCT:

- a) A GIS coverage of potential mitigation sites derived from local watershed planning efforts and an assessment pre-development and existing natural resources.

PART III. IDENTIFY AND ASSESS ADEQUACY OF POTENTIAL SITES

PURPOSE: Rank potential mitigation sites and select the preferred mitigation site.

QUESTIONS TO BE ANSWERED:

- a) Which candidate mitigation sites, identified in Part II, satisfy off-site mitigation needs?
- b) Which candidate mitigation site satisfies mitigation needs and maximizes social, economic, and environmental benefits?

Step 1. Evaluate Potential Mitigation Sites Using an Initial Viability Screen

PURPOSE: While Part II identifies potential off-site mitigation sites based on ecological process recovery needs, additional assessment will be needed to determine if candidate mitigation sites are capable of meeting all of the mitigation requirements at the site scale.

GIS COVERAGES/DATA NEEDED:

- a) Lithotopo unit coverage

TASKS: [Needs Additional Work]

- a) Determine if each candidate mitigation site is in the same lithotopo unit as the transportation project impacts. It is assumed that wetlands and other natural resources within the same lithotopo unit have a higher probability of providing similar functions than those on other lithotopo units.
- b) For each candidate site, estimate the area of restoration potential for each needed natural resource (i.e., wetlands, stream, floodplain, riparian).
- c) For each candidate site, estimate each sites potential to treat needed water quality attributes.
- d) Identify which candidate mitigation sites or combination of sites that are capable of meeting off-site mitigation needs.

PRODUCT:

- a) A list of candidate off-site mitigation sites worthy of more detailed assessment.

Step 2. Conduct On-site Function Assessment of Viable Sites

Use standard site assessments of function. For water quality mitigation needs within 303(d) listed water bodies, potential mitigation sites will need to be modeled for assimilative capacity of the stream system between the mitigation site and the project site. This should be done to determine if adequate water quality treatment will be observed at the project site.

Step 3. Complete Social, Economic, and Environmental Cost/Benefit Analysis for Candidate Sites

PURPOSE: This step completes a quantifiable assessment of social, economic, and environmental benefits for each candidate mitigation site.

GIS COVERAGES/DATA NEEDED:

- a) To be determined by George Xu, WSDOT Economist

TASKS:

- a) Use accepted cost/benefit techniques as identified by George Xu, WSDOT Economist

PRODUCT:

- a) The priority ranking of candidate mitigation sites based on social, economic, and environmental cost/benefit analysis.

Step 4. Develop Priority List of Sites Capable of Mitigating Project Impacts and Maximizing Environmental Investment

PURPOSE:

GIS COVERAGES/DATA NEEDED:

- a) None

TASKS:

- a) Review priority mitigation rankings with permitting agencies, local jurisdictions, and tribes.
- b) Record comments and incorporate them into the final selection of a preferred mitigation site.

PRODUCT:

- a) A preferred mitigation site to mitigation off-site mitigation requirements.

Data Sets Used for Watershed Characterization

Methods used or developed here are designed to use available information or information that can be readily acquired. However, the quality of information used in this characterization will dictate the relative certainty in results. However, while certainty is an issue, final success or failure of any mitigation project will not be dependent on the quality of data used in watershed characterization. Rather, success or failure will be dependent on the quality of the site-specific data compiled to identify project impacts (Part I) and determine the capability of the site to mitigate project impacts (Part III). Only Part II uses the landscape-scale information and this information is only used to identify potential mitigation sites.

There are specific data sets that will increase certainty and expedite the time required to do characterization. While these data sets can be anticipated, it is recommended that the testing and evaluation of methods will provide a more accurate list of data needs.

The following list of data will be used when testing and evaluating characterization methods:

1. **Land use/Land cover** - an essential coverage - some information available everywhere
2. **Surficial geology** - an essential coverage - some information available everywhere
3. **Washington Department of Fish and Wildlife SSHIAP data** - available for approximately one-half of state watersheds
4. **Department of Natural Resources 1:24,000 hydrography** - available statewide
5. **Digital Elevation Model data** - 10 meter resolution available in some areas; 30 meter resolution in all others
6. **Department of Natural Resources WRIA and WAU boundary coverage** - available statewide
7. **USGS 5th and 6th field Hydrologic Unit Code boundary coverage** - available only in Columbia Basin watersheds
8. **EPA 4th level ecoregion coverage** - available
9. **Growth Management Act Comprehensive Plans** - available
10. **Soils data** - available, but some data may not be digitized
11. **US Fish and Wildlife Service National Wetland Inventory data** - available but +25 years old
12. **Washington Department of Fish and Wildlife Priority Habitats and Species data** - available
13. **Local jurisdiction wetland coverages** - at times available
14. **Floodplain data and boundaries** - available but accuracy often questionable
15. **Coverage of dikes, levees, and rip rap** - some information available, may not be digitized
16. **Historic maps of stream networks** - usually available in hardcopy maps
17. **Historical General Land Office survey data** - available in survey logs
18. **303(d) listed water bodies** - available
19. **Local water quality data** - variable
20. **Roads coverage** - usually available
21. **US Geological Survey topography** - available
22. **GAP Analysis data** - available
23. **Fish and Wildlife distribution data** - available
24. **Critical Habitat Assessment data (i.e., EDT)** - available mostly in the Columbia Basin
25. **ESA recovery plans/documents/data** - some data available in all ESA listed areas
26. **Limiting Factors Analysis** - available in many watersheds
27. **TMDL data** - available
28. **Aerial photography** - available
29. **Lithotopo Units** - will need to be developed
30. **Characterization of ecological processes** - will need to be developed
31. **Total Impervious Area calculations** - will need to be developed

References

Angermeier and Schlosser 1995
Ebersole et al. 1997
EPA "A Watershed Assessment Primer" 1994
Frissell 1993
Karr 1995
Montgomery et al. 1995
Naiman et al. 1992
Reeves et al. 1995

Appendix C

Identifying Mitigation Opportunities in Coordination with Local Watershed- based Planning Efforts

**Identifying Mitigation Opportunities
In Coordination With Local Watershed-Based Planning Efforts**

1.	Introduction	1
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Introduction

The Watershed Based Mitigation Subcommittee of the Transportation Permit Efficiency and Accountability Committee (TPEAC) is developing and testing a methodology for coordination of local watershed and transportation planning efforts. This work is intended to help identify appropriate watershed-based mitigation opportunities. The basic unit of watershed planning for this purpose is the Water Resource Inventory Area or “WRIA.” Towards this end the subcommittee is:

- Gathering information on primary groups that do watershed planning and develop prioritized lists of watershed needs and proposed projects
- Developing a cross-reference of the major planning groups on a WRIA-by-WRIA basis
- Determining the purpose of each of these groups (water quality, water quantity, habitat, etc.)
- Identifying the level of scientific rigor behind the priority lists of each type of group
- Developing a list of secondary sources of watershed priority lists or planning for situations in which the primary groups are unable to identify mitigation opportunities
- Developing a GIS-based methodology for quick identification of mitigation opportunities based on the priority lists developed locally and lists of planned transportation projects
- Testing the GIS-based methodology in selected WRIs

Subcommittee members understand that this is only one piece of a bigger streamlining picture, but, at least while developing lists of players and the GIS-based methodology, we chose to look at local watershed coordination as a standalone process. During the next phase of our work, an important goal will be to gain a better understanding of where local watershed coordination fits in the entire process.

Subcommittee members determined that planning under the Salmon Recovery Act (“2496”) and the Watershed Planning Act (“2514”) were the primary groups doing watershed planning. Also important in areas that are part of the Columbia River system is the Northwest Power Planning Council (NWPPC) subbasin planning effort. In each of these types of planning, WRIs are at different stages of planning and prioritization. For this reason the group decided to also develop the secondary list of other sources of watershed priorities.

The contents of this preliminary report are:

- Cross-referenced lists of watershed planning efforts statewide
- A discussion of the analytic rigor of each type of watershed planning
- Information on other types of watershed planning that may be used where the primary groups are not well advanced
- A discussion of the preliminary products of the GIS-based methodology for identifying mitigation opportunities

The final report (for the September TPEAC meeting) will also include:

- The GIS-based system with data from all the primary groups incorporated where complete and available
- A step-by-step methodology usable by WSDOT staff to easily incorporate locally-identified priorities into the planning for new transportation projects, based on experiences in the test WRIs
- A set of recommendations for maintaining an ongoing relationship between WSDOT and local watershed groups, keeping the watershed data up-to-date, etc.

Watershed planning under the Watershed Planning Act (2514)

The Watershed Planning Act was enacted in 1998. Engrossed Substitute House Bill 2514 was codified into RCW 90.82.

The Act sets a framework for addressing the State's water resource, water quality issues as well as establishing instream flows and addressing salmon habitat needs. RCW 90.82 states:

The legislature finds that the local development of watershed plans for managing water resources and for protecting existing water rights is vital to both state and local interests. The local development of these plans serves vital local interests by placing it in the hands of people...

The planning process under the Act is commonly referred to as the "2514" process in reference to the bill that created it. A local agency must come forward to agree to be the lead agency for the planning effort. All WRIsAs in the state may form Planning Units, however, planning is currently occurring in 41 WRIsAs. There are 32 Planning Units; most address a single WRIA, though a few groups are planning for two or three WRIsAs. Also, in some parts of the state 2514 WRIA planning is being combined with Salmon Recovery Act WRIA planning (see below).

Each 2514 Local Planning Unit was given startup funding from the state. To qualify for the funding, the 2514 groups are required to address water quantity issues; optional issues for which they may choose to plan are water quality, minimum streamflows, and salmonid habitat. If the planning unit chooses not to address instream flows, the flows will be set by the Department of Ecology. To date, of the 41 WRIsAs involved in planning efforts (one is just organizing):

- 24 Planning Units (planning for 32 WRIsAs) address the optional Water Quality Element
- 22 Planning Units (planning for 30 WRIsAs) address the optional Instream Flows Element
- 25 Planning Units (planning for 33 WRIsAs) address the optional Habitat Element

Planning Units complete watershed planning in three phases:

- Phase 1: Organization of the Planning Unit
- Phase 2: Conducting the Assessment
- Phase 3: Developing the Watershed Plan

Appendix A, "Watershed Planning in Washington State under HB 2514, HB 2496, NWPPC Subbasin Planning," shows the current phase of each of the Planning Units.

The end product of the three phases of planning under 2514 is a detailed Watershed Plan incorporating information developed through technical assessment, public input, and materials gathered from other initiatives. The plans may vary, but a typical plan would include an explanation of the scientific assessment used, an evaluation of the alternatives (using effectiveness criteria and feasibility criteria), and a recommended implementation program.

RCW 90.82.110 says that the Planning Unit

"is encouraged to identify projects and activities that are likely to serve both short-term and long-term management goals and that warrant immediate financial assistance from the state, federal, or local government. If there are multiple projects, the planning group shall give consideration to ranking projects that have the greatest benefit and schedule those projects that should be implemented first."

These prioritized lists will be the most valuable product of the Planning Units for the purposes of identifying watershed-based mitigation opportunities. Though the law does not specify the process of developing the lists, Planning Units recognize that they must be based on the technical assessments conducted as part of watershed planning in order for the priorities to have validity, and to increase the likelihood of funding for the ranked projects.

In conducting assessments and other studies that include monitoring components or recommendations, 2514 planning efforts must follow the monitoring recommendations developed by the monitoring oversight committee established under the Chapter 77.85 RCW as amended in 1999. Chapter 77.85 RCW implements the Salmon Recovery Act (2496), so this requirement helps ensure coordinated monitoring under the two types of watershed planning. Additionally, the Departments of Ecology and Fish and Wildlife have developed a memorandum of understanding for the coordinated implementation of 2514 and 2496 watershed planning (for more information see <http://www.ecy.wa.gov/watershed/MOU.html>).

The Watershed Planning Act specifies the contents of technical assessments but not a particular process for conducting assessments. The "Guide to Watershed Planning and Management" (<http://www.ecy.wa.gov/pubs/99106.pdf>) offers an approach to organizing the process of performing technical assessments. It recommends a three step process which allows decision-making to proceed in the short-term, yet recognizes that in the long-term, management actions can be

refined as scientific understanding improves. The three steps are:

- Level 1 Assessment: A comprehensive compilation and review of existing data relevant to defined objectives.
- Level 2 Assessment: Collection of new data within the time frame of the planning process, to fill critical data gaps and support well-defined decision needs.
- Level 3 Assessment: Long-term monitoring of selected parameters following completion of the initial watershed plan.

In addition to collection of the data itself, the “Guide” recommends two techniques to assist in planning data collection and minimizing disagreement over data. These are:

- The Technical Assessment Protocol, a technique for establishing agreement in advance on the purposes of specific data to be collected, the methods to be used, and the appropriate end points of data collection.
- The Technical Validation Process, a process using a technical panel to provide an objective review of data collection, findings, and adequacy to support the purposes outlined in the Technical Assessment Protocol. The intent is to achieve agreement on technical issues separately from discussion of political and philosophical issues.

Watershed analysis under the Salmon Recovery Act (2496)

The Salmon Recovery Act was also enacted in 1998. Engrossed Substitute House Bill 2496 was codified into RCW 77.85. The Act sets a framework for addressing the State’s addressing salmon habitat needs. The Act reads, in part:

The legislature finds that repeated attempts to improve salmonid fish runs throughout the state of Washington have failed to avert listings of salmon and steelhead runs as threatened or endangered under the federal endangered species act ... It is the intent of the legislature to begin activities required for the recovery of salmon stocks as soon as possible, although the legislature understands that successful recovery efforts may not be realized for many years because of the life cycle of salmon and the complex array of natural and human-caused problems they face.

One of the Act’s major purposes was to retain state and local responsibility for managing Washington’s natural resources. The legislature authorized the creation of local citizen groups called Lead Entities to coordinate and promote salmon recovery in their local areas. Lead Entities identify, solicit and prioritize salmon habitat recovery projects at the local level. One of the important benefits is improved coordination and communication between various groups active in salmon recovery. Currently, there are 25 Lead Entities in the state, encompassing 43 WRIAs. Lead Entities are the exclusive body that recommend projects to the Salmon Recovery Funding Board for funding.

The Washington State Conservation Commission was required to form technical advisory groups composed of private, federal, state, tribal, and local government personnel with appropriate technical expertise to support the processes of the lead entities.

The lead entity in a watershed is required to establish a watershed committee representing interests of counties, cities, conservation districts, tribes, environmental groups, business interests, landowners, citizens, volunteer groups, regional fish enhancement groups, and other habitat interests. The committee provides a citizen-based evaluation of the projects proposed to promote salmon habitat. The technical review team may provide the lead entity with organizational models that may be used in establishing the committees. The committees compile a list of habitat projects, establish priorities for individual projects, define the sequence for project implementation, and submit these activities as the habitat project list. They also identify potential federal, state, local, and private funding sources.

The Act also gave the Conservation Commission the task of coordinating the evaluation of the habitat factors that limit the success of salmonids in Washington State. These habitat factors are commonly referred to as “limiting factors.” Currently, limiting factors reports for 32 WRIAs are completed, with 11 more underway. These science-based reports are intended to guide local salmon recovery efforts.

The two lists – the habitat projects list created by the watershed committee, and the limiting factors report coordinated by the Conservation Commission – are the most valuable products of the 2496 process for the purposes of identifying watershed-based mitigation opportunities.

The Governor’s Salmon Recovery Office has developed two valuable documents guiding watershed assessment. The “Guidance On Watershed Assessment For Salmon” (May, 2001) helps watershed groups, state agencies, and other

groups to understand what kinds of assessment are needed to support decisions about projects to protect and restore habitat for salmon. The Guidance was developed by an interdisciplinary workgroup of technical specialists. The “Roadmap for Salmon Habitat Conservation at the Watershed Level” (Feb. 2002) continues the work of the Guidance. The Roadmap is intended to help local groups take the key steps needed for salmon habitat conservation in their watershed. It provides information on components and steps needed to conserve salmon habitat in a watershed. Information on how these steps can be taken is provided with the understanding that local groups can and will need to tailor these steps for their watershed. Development of both of these documents was coordinated by the Governor's Salmon Recovery Office and has been endorsed by the Joint Natural Resources Cabinet. These documents are available on the Governor's Salmon Recovery Office website at <http://governor.wa.gov/esa/>.

RCW 77.85.060 requires that the Critical Pathways methodology be used to develop habitat project lists. This ensures salmon habitat projects will be prioritized and implemented in a logical sequential manner that produces habitat capable of sustaining healthy populations of salmon. This methodology includes a limiting factors analysis for salmon in streams, rivers, tributaries, estuaries, and subbasins in the region.

The five-member Independent Science Panel was created to provide scientific review and oversight of the state's recovery effort. The Independent Science Panel, appointed by the Governor, reviews recovery plans.

Subbasin planning under Northwest Power Planning Council

The (federal) Northwest Power Act directs the Northwest Power Planning Council (NWPPC) to develop a fish and wildlife program. The program is intended to protect, mitigate and enhance fish and wildlife of the Columbia River Basin that have been impacted by hydropower dams. They also make annual funding recommendations to the Bonneville Power Administration for projects to implement the program.

NWPPC sponsors development of subbasin plans through an open public process that includes the participation of a wide range of state, federal and tribal governments, local managers, landowners, local governments, and other stakeholders. In Washington subbasin planning is likely to incorporate 2514 and 2496 watershed plans where they exist. The subbasin plans must be consistent with provisions contained in the Northwest Power Act, and the Northwest Power Planning Council's Fish and Wildlife Program. They contain the measures that drive program implementation at the subbasin level. The NWPPC subbasin plans are not expected to duplicate the plans developed by others, including states, tribes, or the federal government, and wherever possible (and scientifically warranted), the Council adopts existing plans into the subbasin plans. Subbasin plans are intended to cover all areas draining to the Columbia River in the United States including all Columbia drainage in Washington.

The heart of the management plan is the subbasin plan, which defines the environmental and biological vision, objectives, and strategies specific to fish and wildlife within the Columbia River Basin for a 10 to 15 year planning horizon. An assessment forms the scientific and technical foundation for developing subbasin vision, objectives and strategies. The assessment is based on an assessment template developed by the NWPPC. The Council has developed an analytical model (Ecosystem Diagnosis and Treatment: See <http://www.edthome.org/>) to complement this template for use in subbasin planning. The identification of limiting factors should derive from this assessment. The limiting factors should describe the problems that impede the desired biological performance. The assessment is the technical evaluation of the biological and physical characteristics of the subbasin, and brings together technical information needed to develop biological objectives. EDT is able to link habitat condition to responses in salmon and bull trout populations, and may be adapted for terrestrial wildlife. The use of EDT tool allows the council a way of standardizing assessment data between subbasins. The assessment and development of the management plan is based on the concept of a working hypothesis. A working hypothesis summarizes a scientifically based understanding of the subbasin at the time the management plan is developed and begins to bridge the gap between the science and strategies. Finally, the working hypothesis provides the elements necessary for scientific review of the subbasin plan by the Council and the Independent Scientific Advisory Board.

Subbasin summaries, which are compilations of existing information but do not comprise results of actual assessment, have been completed for much of the Columbia drainage (see Appendix A, “Watershed Planning in Washington State under HB 2514, HB 2496, NWPPC Subbasin Planning”). However, no actual subbasin plans have been completed, and most will not be completed for 2 years or more.

Summary of other watershed-based planning efforts

Other governmental entities, groups, and non-governmental organizations are involved with planning on a watershed basis, usually less formally than the efforts described above. The work products of these other groups might be used when the primary types (2514, 2496, NWPPC subbasin plans) are unavailable or when main types fail to provide usable mitigation opportunities).

Here is a list of some of these groups which should be contacted as a potential source of supplemental information for

identification of appropriate watershed-based mitigation opportunities (they would also be especially useful in watersheds where none of the three primary watershed planning efforts had completed a plan):

- **Tribal groups:** Many of the watersheds in the state are designated as usual and accustomed fishing grounds for one or more of the tribes located in the state. Where any of the three primary watershed planning efforts is underway, tribal groups with fishing rights in the watershed are normally involved in the planning process. Otherwise, they may be able to offer information on environmental needs in the watershed. Good starting points of contact would be the Columbia River Inter-Tribal Fish Commission in Eastern Washington and the Northwest Indian Fisheries Commission in Western Washington.
- **Regional fish enhancement groups (RFEs):** The RFE program was created by the state legislature in 1990. It was designed to include citizens in salmon restoration efforts. Each of the fourteen RFEs is a separate, non-profit organization. RFEs propose and develop habitat improvement, salmon production, and outreach / education / research projects. Where any of the three primary watershed planning efforts is underway, RFEs are likely to be involved in the planning process if they are active in the watershed.
- **Habitat Conservation Plans (HCPs)** are required under Section 10(a) of the ESA to authorize a “take” of listed species when the taking will not appreciably reduce the likelihood of the species' survival and recovery. They may be developed by individual project proponents or as a regional solution. The HCP specifies the impacts, steps to minimize the impacts, and alternatives and also outlines the mitigation measures to be implemented. These measures may involve preservation of existing habitat, restoration of degraded or former habitat, creation of new habitat, the establishment of buffers around existing habitat, or restrictions on land-use or access. Measures called for in the HCPs may be possible mitigation opportunities.
- **Conservation District activities:** Conservation Districts in Washington State are the only organizations that routinely design and apply on-the-ground solutions to nonpoint water quality problems on privately-owned agricultural lands. They are involved in all primary watershed planning efforts.
- **Small watershed groups** such as creek alliances exist in many parts of the state. In most cases, their efforts will be incorporated in the work of the primary watershed groups.
- **Critical Areas** information is available from county comprehensive plans for those counties required to plan under the Growth Management Act. The Critical Areas they are required to address include wetlands, aquifer recharge areas, frequently flooded areas, and fish and wildlife habitat conservation areas.
- **Local efforts** such as open space, greenbelt preservation, purchase of development rights.
- **Non-governmental organizations** such as Trout Unlimited, Ducks Unlimited, Audubon, Nature Conservancy, land trusts, etc.

Recommended methodology

Up to this point, the subcommittee has been most concerned with gathering the needed information on available priority planning. However, the development of the GIS-based methodology is so important and potentially time-consuming that we began the two tasks simultaneously. The GIS-based methodology is being tested on two WRIAs. While incomplete, there are some preliminary products.

The two WRIAs were identified to test the methodology because:

- They had each implemented both Salmon Recovery (2496) and Watershed Planning (2514)

- Each WRIA was well advanced in both planning processes compared to most other WRIsAs in the state
- State agency representatives to WRIA groups in each of those WRIsAs were available to actively assist the subcommittee

To demonstrate the GIS-based coordination of local watershed efforts and transportation planning, we created a map of the Dungeness watershed including near-future WSDOT projects and priorities of local watershed planning efforts (2496 and 2514) that also included elements such as salmon stocks, wetlands, parks, forests, and city limits. We would like to see tests continued in the two advanced watersheds we have already done work in, WRIsAs 11 and 18, but also in watersheds at a variety of less advanced states. The subcommittee recommends that we continue the test by compiling state-wide data from WS-based groups and use the data in the GIS-based system to finding appropriate mitigation opportunities.

Other recommendations

The subcommittee made some other recommendations related to local watershed coordination. These include:

- Use the Uniform Environmental Project Reporting System (UPERS) database to compile priorities.

This database has strong GIS capabilities. It has accommodations for frequent updates (through the internet). The database is available to anyone with internet access.

- Develop and maintain close ongoing coordination between WSDOT and watershed groups.

At a minimum, the regional environmental or planning staff should meet with the watershed groups when the two-year project lists are announced.

- Develop standardized data collection sheets for onsite investigation of potential mitigation sites.

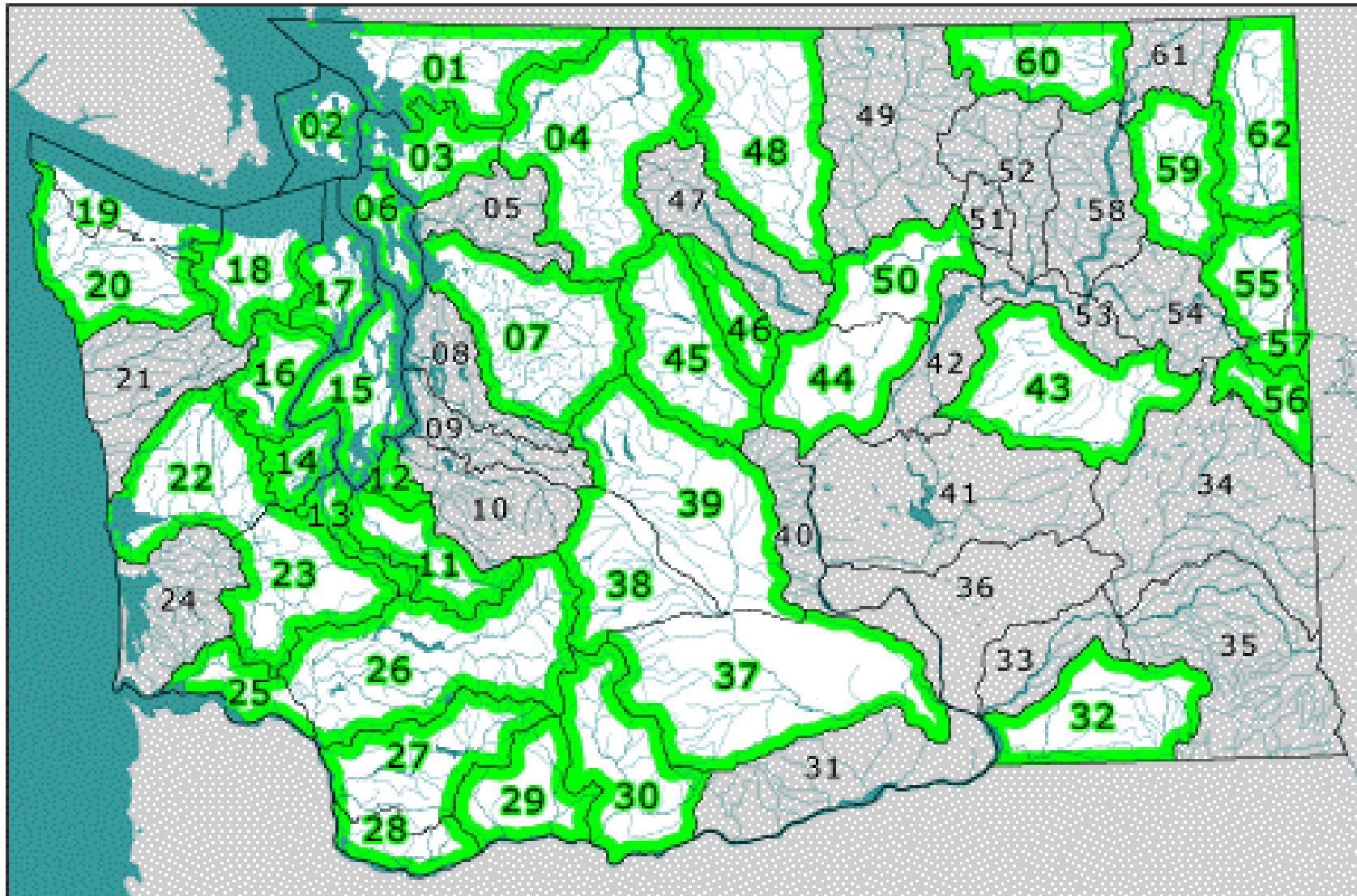
That way, additional data on whether and in what way the sites would or wouldn't work for mitigation could be cataloged, even when the sites were not immediately used.

Products for TPEAC in September

The subcommittee expects to have some additional products related to local watershed coordination available by September. These include:

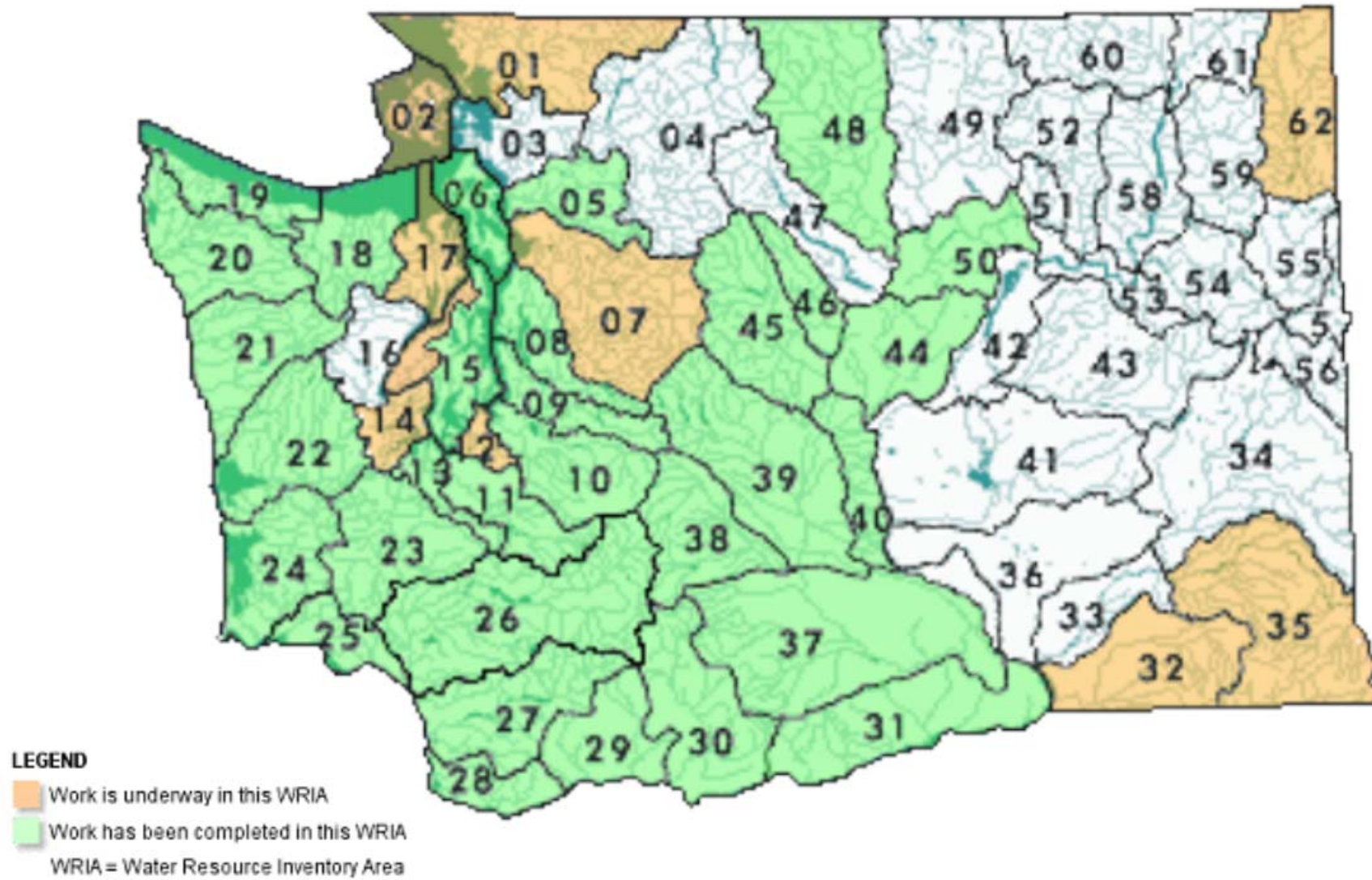
- Fully realized products (maps, tables, recommended mitigation) for the test WRIsAs. As part of the test, subcommittee members would meet with watershed groups in test WRIsAs to test the methods of coordination. [Note: test WRIsAs would include a selection that would include WRIsAs with advanced watershed work, WRIsAs that were less advanced, and WRIsAs with little watershed work accomplished.]
- The GIS-based system, with data from all the primary groups incorporated where available.
- A step-by-step methodology usable by WSDOT staff to easily incorporate locally-identified priorities into the mitigation planning for new transportation projects.
- A set of recommendations for maintaining an ongoing relationship between WSDOT and local watershed groups.
- A set of recommended methodology for keeping the watershed data up-to-date.

Watershed Planning under the Watershed Planning Act (HB 2514)

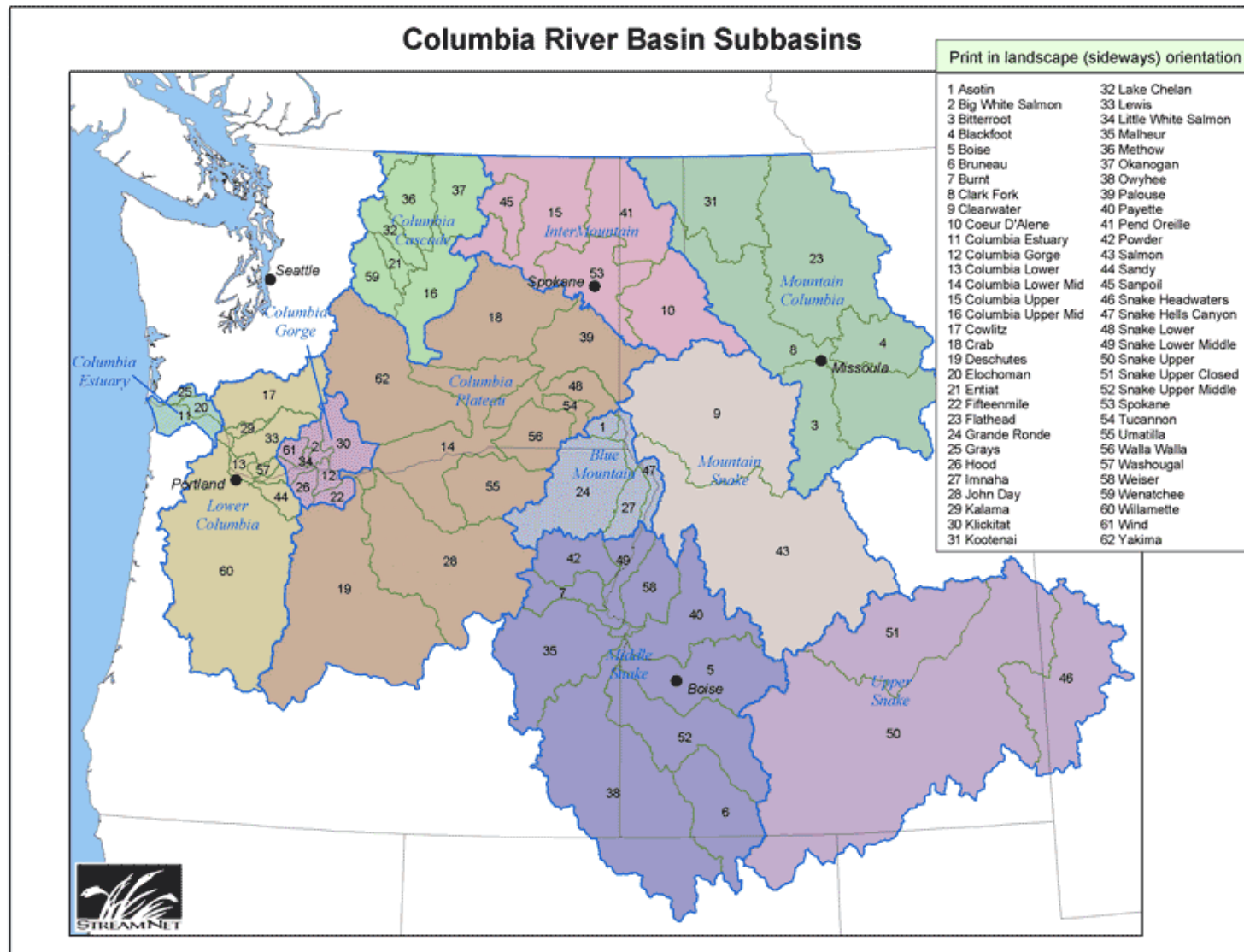


Green Outlined Water Resource Inventory Areas are Participating in Watershed Planning under the Act

Limiting Factors Analysis Under Salmon Recovery Act (HB 2496)

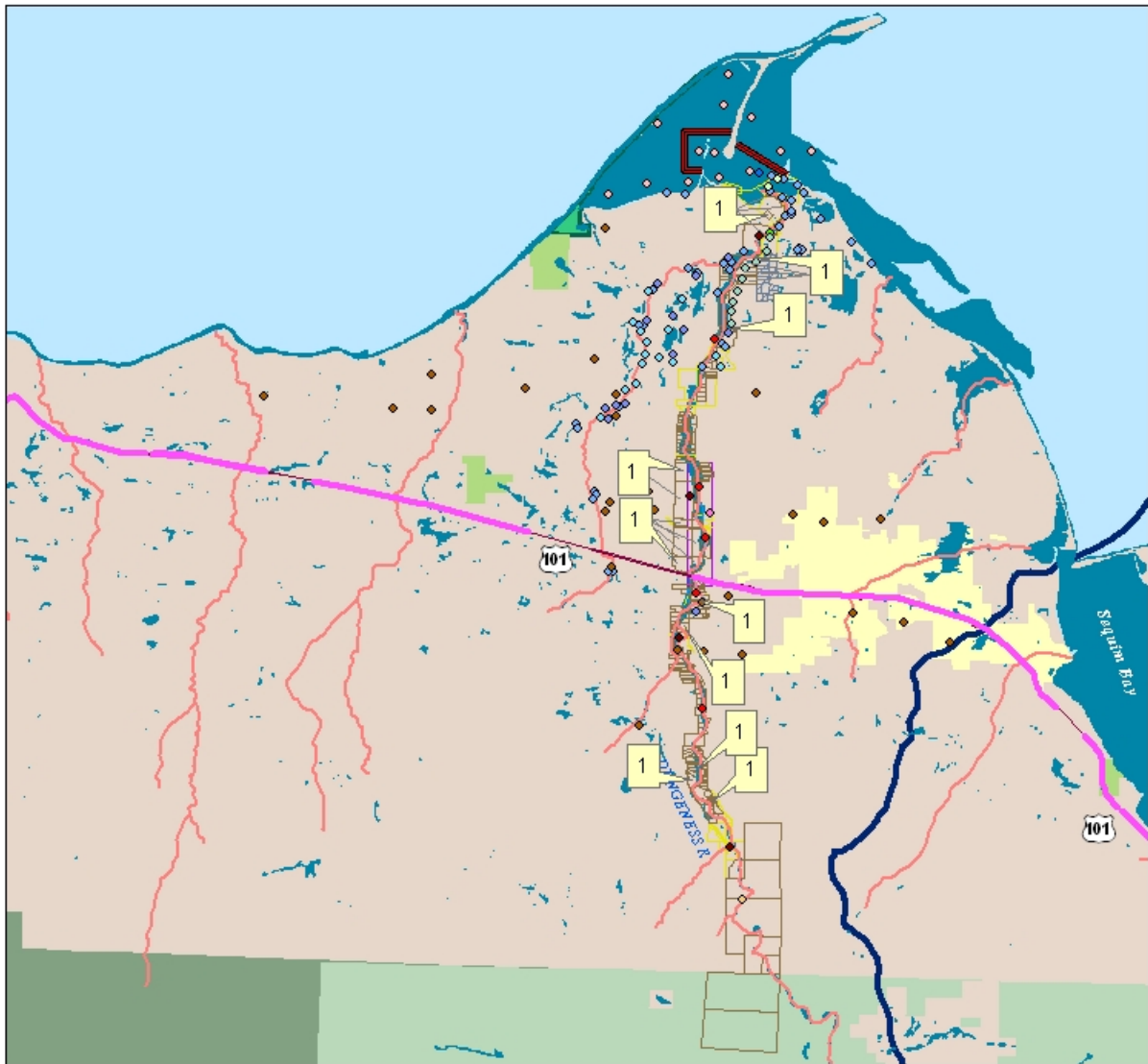


Northwest Power Planning Council Subbasin Planning



Note: Map shows several states

Preliminary map combining identified watershed priorities and planned transportation projects in the Dungeness watershed



WSDOT Projects in Dungeness

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0 0.5 1 2

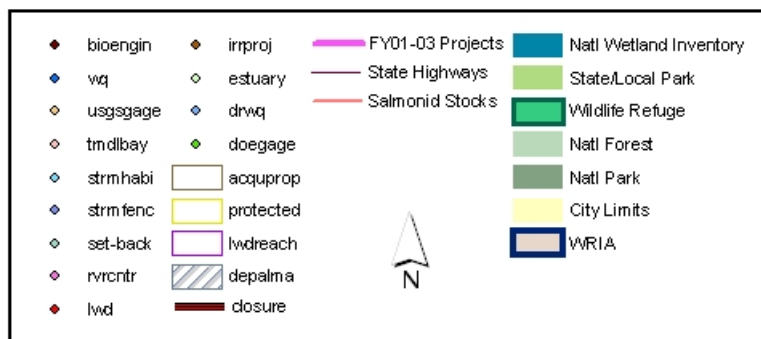
Miles

February 2002

Non- WSDOT Data Sources:
Salmonid Stocks - WDFW 2001
Public Lands - WaDNR 2001
WRIA - ECY 2001
Wetlands - USF&WS

Environmental Site Data
from Ecology and Jamestown
S'Klallam Tribe

tsj:2yrxwria_Dungeness.mxd



Watershed Planning in Washington State under HB 2514, HB 2496, NWPPC Subbasin Planning

WRIA	Name	Planning Under 2514?	2514 Plan for: *			Status or Phase under 2514:	Lead Entity (2496)	LFA Report Available?	Planning under NWPPC? **	Subbasin Summary?
			Quality	Flows	Habitat					
WRIA 01	Nooksack	Yes	Yes	Yes	Yes	Phase 2 & 3	Whatcom Co.	Underway		N/A
WRIA 02	San Juan Quality	Yes			Yes	Phase 2 & 3	San Juan CD	Underway		N/A
WRIA 03	Lower Skagit-Samish	Yes (with 4)		Yes		Phase 2 & 3	Skagit Watershed Council			N/A
WRIA 04	Upper Skagit	Yes (with 3)		Yes		Phase 2 & 3	Skagit Watershed Council			N/A
WRIA 05	Stillaguamish						Snohomish Co. / Stillaguamish Tribe	Yes		N/A
WRIA 06	Island	Yes	Yes		Yes	Phase 2	Island Co.	Yes		N/A
WRIA 07	Snohomish	Yes				Startup	Snohomish Co.	Underway		N/A
WRIA 08	Cedar-Sammamish						King Co.	Yes		N/A
WRIA 09	Duwamish-Green						King Co.	Yes		N/A
WRIA 10	Puyallup						Pierce Co.	Yes		N/A
WRIA 11	Nisqually	Yes	Yes	Yes	Yes	Phase 2	Nisqually R. Salmon Recovery	Yes		N/A
WRIA 12	Chambers-Clover	Yes	Yes		Yes	Phase 2 & 3	Pierce Co.	Underway		N/A
WRIA 13	Deschutes	Yes	Yes	Yes	Yes	Phase 2 & 3	Thurston CD	Yes		N/A
WRIA 14	Kennedy-Goldsborough	Yes				Startup, moving to Phase 2	Mason CD***, Hood Canal Coordinating Council***	Underway		N/A
WRIA 15	Kitsap	Yes	Yes	Yes	Yes	Phase 2	Kitsap County***, Hood Canal Coord. Council***	Yes		N/A
WRIA 16	Skokomish-Dosewallip	Yes				Startup, moving to Phase 2	Hood Canal Coord. Council			N/A

WRIA	Name	Planning Under 2514?	2514 Plan for: *			Status or Phase under 2514:	Lead Entity (2496)	LFA Report Available?	Planning under NWPPC? **	Subbasin Summary?
			Quality	Flows	Habitat					
WRIA 17	Quilcene-Snow	Yes	Yes	Yes	Yes	Phase 2 & 3	North Olympic Peninsula***, Hood Canal Coord. Council***	Underway		N/A
WRIA 18	Elwha-Dungeness	Yes	Yes	Yes	Yes	Phase 2 & 3	North Olympic Peninsula	Yes		N/A
WRIA 19	Lyre-Hoko	Yes (with 20)	Yes	Yes	Yes	Phase 2	North Olympic Peninsula	Yes		N/A
WRIA 20	Soleduck-Hoh	Yes (with 19)	Yes	Yes	Yes	Phase 2	North Olympic Peninsula	Yes		N/A
WRIA 21	Queets-Quinault						Quinault Nation	Yes		N/A
WRIA 22	Lower Chehalis	Yes (with 23)	Yes		Yes	Phase 2 & 3	Grays Harbor County	Yes		N/A
WRIA 23	Upper Chehalis	Yes (with 22)	Yes		Yes	Phase 2 & 3	Grays Harbor County	Yes		N/A
WRIA 24	Willapa						Pacific County	Yes		N/A
WRIA 25	Grays-Elokoman	Yes (with 26)	Yes	Yes	Yes	Phase 2 & 3	Lower Columbia Fish Recovery Board	Yes	Yes	Grays: draft Elokoman: draft
WRIA 26	Cowlitz	Yes (with 25)	Yes	Yes	Yes	Phase 2 & 3	Lower Columbia Fish Recovery Board	Yes	Yes	Draft
WRIA 27	Lewis	Yes (with 28)	Yes	Yes	Yes	Phase 2 & 3	Lower Columbia Fish Recovery Board	Yes	Yes	Kalama: draft Lewis: draft
WRIA 28	Salmon-Washougal	Yes (with 27)	Yes	Yes	Yes	Phase 2 & 3	Lower Columbia Fish Recovery Board	Yes	Salmon is part of "Lower Col. Mainstem," Washougal independent	Draft
WRIA 29	Wind-White Salmon	Yes	Yes	Yes	Yes	Phase 2	Lower Columbia Fish Recovery Board***, Klickitat County***	Yes	Yes	Wind: draft White Salmon: draft
WRIA 30	Klickitat	Yes	Yes	Yes	Yes	Phase 1	Klickitat County	Yes	Yes	Draft
WRIA 31	Rock-Glade					Startup	Klickitat County	Yes	Yes	Draft
WRIA 32	Walla Walla	Yes	Yes	Yes	Yes	Moving to Phase 2	Snake River Salmon Recovery Board	Yes	Yes	Draft

WRIA	Name	Planning Under 2514?	2514 Plan for: *			Status or Phase under 2514:	Lead Entity (2496)	LFA Report Available?	Planning under NWPPC? **	Subbasin Summary?
			Quality	Flows	Habitat					
WRIA 33	Lower Snake						Snake River Salmon Recovery Board***	Underway	Yes	Draft
WRIA 34	Palouse							Underway	Yes	Draft
WRIA 35	Middle Snake						Snake River Salmon Recovery Board	Underway	Yes (part of "Lower Snake")	Draft
WRIA 36	Esquatzel Coulee							Underway	Yes (part of "Col. Plateau Mainstem")	Draft
WRIA 37	Lower Yakima	Yes (with 38 and 39)	Yes	Yes	Yes	Phase 3	Yakima River Basin Salmon Recovery Board	Yes	Yes (Yakima all in one)	Draft
WRIA 38	Naches	Yes (with 37 and 39)	Yes	Yes	Yes	Phase 3	Yakima River Basin Salmon Recovery Board	Yes	Yes (Yakima all in one)	Draft
WRIA 39	Upper Yakima	Yes (with 38 and 38)	Yes	Yes	Yes	Phase 3	Yakima River Basin Salmon Recovery Board***	Yes	Yes (Yakima all in one)	Draft
WRIA 40	Alkali-Squilchuck						Chelan County***	Yes	Yes (part of "Col. Plateau Mainstem")	Draft
WRIA 41	Lower Crab								Yes (part of "Crab")	Draft
WRIA 42	Grand Coulee								Yes (part of "Crab")	Draft
WRIA 43	Upper Crab/Wilson	Yes				Startup Phase 1			Yes (part of "Crab")	Draft
WRIA 44	Moses Coulee	Yes (with 50)	Yes	Yes	Yes	Phase 2	Foster Creek Conservation District	Yes	Yes (part of "Crab")	Draft
WRIA 45	Wenatchee	Yes	Yes	Yes	Yes	Phase 2	Chelan County	Yes	Yes	Not started
WRIA 46	Entiat	Yes	Yes	Yes	Yes	Phase 2	Chelan County	Yes	Yes	Not started
WRIA 47	Chelan						Chelan County		Yes	Not started

WRIA	Name	Planning Under 2514?	2514 Plan for: *			Status or Phase under 2514:	Lead Entity (2496)	LFA Report Available?	Planning under NWPPC? **	Subbasin Summary?
			Quality	Flows	Habitat					
WRIA 48	Methow	Yes	Yes	Yes	Yes	Phase 2	Okanogan County & Colville Tribe	Yes	Yes	Not started
WRIA 49	Okanogan						Okanogan County & Colville Tribe		Yes	Not started
WRIA 50	Foster Creek	Yes (with 44)	Yes	Yes	Yes	Phase 2	Foster Creek Conservation District	Yes	Yes	Not started
WRIA 51	Nespelem								Yes (Lake Rufus Woods)	Draft
WRIA 52	Sanpoil								Yes	Draft
WRIA 53	Lower Lake Roosevelt								Yes (part of Lk. Roosevelt)	Draft
WRIA 54	Lower Spokane								Yes (part of Spokane)	Draft
WRIA 55	Little Spokane	Yes (with 57)	Yes	Yes	Yes	Phase 2			Yes (part of Spokane)	Draft
WRIA 56	Hangman	Yes	Yes	Yes	Yes	Phase 2			Yes (part of Spokane)	Draft
WRIA 57	Middle Spokane	Yes (with 55)	Yes	Yes	Yes	Phase 2			Yes (part of Spokane)	Draft
WRIA 58	Middle Lake Roosevelt								Yes (part of Lk. Roosevelt)	Draft
WRIA 59	Colville	Yes	Yes	Yes	Yes	Phase 2 & 3			Yes (part of Lk. Roosevelt)	Draft
WRIA 60	Kettle	Yes				Startup Phase 1			Yes (part of Lk. Roosevelt)	Draft
WRIA 61	Upper Lake Roosevelt								Yes (part of Lk. Roosevelt)	Draft
WRIA 62	Pend Oreille	Yes	Yes	Yes	Yes	Phase 2 & 3	Pend Oreille Conservation District	Underway	Yes	?

* All 2514 local planning units are planning for water quantity

** No planning completed under NWPPC; subbasin plans expected by 2004.

*** Part of WRIA

Data:

"Watershed Report," Office of Financial Management, November 2001

"State of WA 2001 - 2002 Lead Entity Organizations," WDFW Web Page

"Habitat Limiting Factors," Conservation Commission Web Page

"Subbasin Planning" Northwest Power Planning Council Web Page

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
April 10, 2002

FOR THE PURPOSE OF APPROVING THE PROGRAMMATIC SUB-COMMITTEE'S RECOMMENDED STAFF SCENARIO FOR STEPS 5 AND 6 OF THE PROGRAMMATIC APPROACH	TPEAC RESOLUTION NUMBER _11_____
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It is the intent of this resolution to put adopt the programmatic subcommittee's addendum to Section VII of the Report, which identifies the recommended staffing scenario to accomplish steps 5 and 6 of the report.

RESOLUTION FOR APPROVAL BY TPEAC:

TPEAC believes completion of steps 5 and 6 of the Programmatic Subcommittee' April 10, 2002 report will promote a new way of doing business built on the following principles:

- i. Incorporates the "process improvement" concept by engaging all stakeholders to reveal problems, elevate issues, and bring forth solutions.
 - ii. Builds trust and commitment between agencies
 - iii. Accelerates permit processes and minimize impacts to the environment.
- b. TPEAC recommends that each jurisdictional agency dedicate 75-100% of one staff person's time to participate in steps 5 and 6 of the programmatic approach. The key agencies include WSDOT, WDFW, Ecology, the Corps, USFWS, and NMFS. Participation from local governments will also be sought where practicable. This commitment will result in long-term benefits by reducing the time frame for transportation project delivery and staff time spent processing permits.
- c. The participating staff should be senior level technical staff. The subcommittee recommends that participating staff have experience in aquatic habitat impact assessment, environmental

policy development, experience with process improvement, and understands and can speak for agency policy.

- d. TPEAC directs that the norming workgroup strategize a method for addressing all of the activities. This may include grouping similar activities together, soliciting support from technical staff who have special knowledge over pertinent issues, and determining at what level norming will occur (e.g. development of guidelines, common conditions, or programmatic permit approval).
- e. To demonstrate performance and accountability, the Programmatic Subcommittee will report to TPEAC on a quarterly basis the progress of its efforts. Success may result in:
 - i. Identification of activities that are actually exempt from agency jurisdiction or permit requirements
 - ii. Identify common levels of information and levels of analysis necessary for project review
 - iii. Identify common environmental conditions for project approval
 - iv. Identify common methods for determining mitigation requirements for project approval
 - v. Development of programmatic permit approvals

ADOPTED by the TPEAC (April 10, 2002).

Senator Dan Swecker, committee chairman

Addendum to Section VII of the Programmatic Report

Purpose: The purpose of this addendum is to further clarify and identify the resource needs and time expectation to complete steps 5 and 6 of the programmatic approach. This addendum will contribute to a second resolution by the programmatic subcommittee for the TPEAC to vote on at the April 10th meeting.

The programmatic subcommittee is recommending that TPEAC approve the following scenario that addresses staff resources for completing steps 5 and 6 of the programmatic approach:

- a. The Programmatic Subcommittee believes that this effort will result in a new way of doing business that is built on the following principles:
 - i. Incorporates the “process improvement” concept by engaging all stakeholders to reveal problems, elevate issues, and bring forth solutions.
 - ii. Builds trust and commitment between agencies
 - iii. Accelerates permit processes and minimize impacts to the environment.
- b. The Subcommittee recommends that each jurisdictional agency dedicate 75-100% of one staff person’s time to participate in steps 5 and 6 of the programmatic approach. The key agencies include WSDOT, WDFW, Ecology, the Corps, USFWS, and NMFS. This commitment will result in long-term benefits by reducing the time frame for transportation project delivery and staff time spent processing permits.
- c. The participating staff should be senior level technical staff. The subcommittee recommends that participating staff have experience in aquatic habitat impact assessment, environmental policy development, experience with process improvement, and understands and can speak for agency policy.
- d. The Programmatic Subcommittee recommends that the norming workgroup strategize a method for addressing all of the activities. This may include grouping similar activities together, soliciting support from technical staff who have special knowledge over pertinent issues, and determining at what level norming will occur (e.g. development of guidelines, common conditions, or programmatic permit approval).
- e. To demonstrate performance and accountability, the norming workgroup will report to TPEAC on a quarterly basis the progress of their efforts. Success of the norming workgroup may result in the following ways:
 - i. Identification of activities that are actually exempt from agency jurisdiction or permit requirements
 - ii. Identify common levels of information and levels of analysis necessary for project review
 - iii. Identify common environmental conditions for project approval
 - iv. Identify common methods for determining mitigation requirements for project approval
- f. TPEAC may conclude the effort upon the finding that the workgroup is not performing effectively.

Result of Vote

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	x			
Senator Prentice	x			
Rep. Ericksen	x			
Rep. Rockefeller	x			
Department of Transportation	x			
Department of Ecology	x			
Department of Fish & Wildlife	x			
Association of Washington Cities				x
Washington State Association of Counties	x			

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
April 10, 2002

FOR THE ADOPTION OF A MISSION STATEMENT FOR THE PLANNING SUBCOMMITTEE	TPEAC RESOLUTION NUMBER <u>12</u>
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It is the intent of this resolution to adopt the mission statement for the Planning Subcommittee.

RESOLUTION FOR APPROVAL BY TPEAC:

The following mission statement of the Planning Subcommittee is adopted:

Coordinate transportation planning with environmental and land use planning processes at all levels of government **so that** transportation projects avoid, minimize, or otherwise mitigate impacts on the environment in order to reduce conflict and project delay, and help to ensure that subsequent permitting decisions are made in a more coordinated streamlined manner.

ADOPTED by the TPEAC (April 10, 2002).

Senator Dan Swecker, committee chairman

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
May 8, 2002

FOR THE PURPOSE OF APPROVING THE TRAINING, COMPLIANCE AND REPORTING SUB-COMMITTEE'S GOAL AND OBJECTIVES	TPEAC RESOLUTION NUMBER 13
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RESOLUTION FOR APPROVAL BY TPEAC:

TPEAC finds that the following Goal and Objectives are appropriate for the Training, Compliance, and Reporting Sub-committee to consider when developing and detailing specific recommendations:

Goal:

Environmental compliance is planning, designing, building, maintaining and operating a transportation system while:

- Avoiding, minimizing, or mitigating environmental impacts
- Meeting federal, state, and local legal requirements
- Meeting permit conditions
- Being accountable for results

Objectives:

- Improve and demonstrate impact avoidance and minimization from project scoping through construction, operation, and maintenance.
- Ensure dedicated and adequate compliance, training, and reporting funding for DOT and NR agencies.
- Establish system to develop, track and analyze environmental performance and create feedback loop using monitoring results.
- Respect the differences of missions and operational approaches of DOT and NR agencies while recognizing that all agencies need

to be willing to change in order to cooperate and collaborate effectively.

- Increase accountability by using timely clear communication. This will improve trust among all parties and the public.
- Define the roles and responsibilities of all WSDOT staff, contractors (and NR Agencies) relative to environmental compliance.

TIMELINE. The sub-committee shall return to TPEAC in July with specific recommendations.

PRODUCT. The recommendations will include:

- Detailed actions
- Roles of responsible parties
- Timelines for implementation
- Required resources

ADOPTED by the TPEAC (May 8, 2002).

Senator Dan Swecker, committee chairman

Result of Vote

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	X			
Senator Prentice	X			
Rep. Ericksen	X			
Rep. Rockefeller	X			
Department of Transportation	X			
Department of Ecology	X			
Department of Fish & Wildlife	X			
Association of Washington Cities	X			
Washington State Association of Counties	X			

**ONE-STOP PERMITTING PROCESS
AS ADOPTED BY TPEAC
MAY 8, 2002**

Preface

Inherent in the successful implementation of this process, is collaborative and timely action on the part of all agency staff to address issues associated with environmental review and permitting. Steps 1-6 of this process shall constitute the one-stop permitting process. Dispute resolution, when necessary, is intended to resolve disputes in a timely fashion as they may arise. This process is applicable to TPEAC designated pilot projects and to projects of statewide significance.

Step1: Project Definition / Interdisciplinary Teams

Appropriate agencies will be contacted at the onset of Project Definition for the formation of Interdisciplinary (ID) Teams for projects not covered by programmatic permits. ID Teams of WSDOT, permitting/resource agency, affected tribes, and private or public sector discipline experts (including engineers) will be chartered and convened to: define the project's impacts; elicit input from the agencies and others for the level of detail, appropriate avoidance, minimization and type and place of mitigation and conditions for the permit; set a master timeline and schedule; and address agency resource needs, consistent with Chapter 47.06C RCW. The ID Team will remain in existence from Project Definition into Design through Plans Specifications & Estimates (PS&E) and construction, in order to influence and respond to design and construction changes.

The ID Team will develop a charter to address such items as permitting and meeting schedules, communication protocol, and other coordination issues. The time period for Step 1 could range from one meeting to in excess of one year, depending upon the complexity of the project.

Step 2: Unified Permit Application (WSDOT prepared)

This collaborative effort would then be reflected in a unified permit application drafted by WSDOT and submitted to the agencies for concurrent review. To facilitate the process, WSDOT may consider requesting a waiver of applicable permit timelines.

Step 3.

The unified permit application will be submitted to the agencies for independent review and to initiate public involvement processes in conformity with applicable statutes, regulations, and policies. Agencies will conduct their public review processes concurrently, including unified public hearings, to the extent possible. Upon submission to the agencies, the permit application is a matter of public record and is available for public review through WSDOT.

Step 4.

The IDT will be reconvened to go over the comments. Each agency will follow its own procedures and work with WSDOT to revise the permit application to incorporate conditions required by the respective agencies. The IDT will update the schedule established in Step 1, as it pertains to Step 5 re-submittal of the unified permit application.

Step 5: 30 Day Final Agency Permit Application Review – Approval Step

WSDOT will resubmit the unified permit application to all agencies for final review. All reviews of the final document will be completed within thirty days, at which time the permitting agencies will act upon the application by either issuing the permit or returning the application without approval. If the application is returned without approval, the permitting agency must identify errors or omissions and any remaining specific deficiencies or circumstances that must be met or addressed to be compliant with applicable law. Agencies withholding approval have this one opportunity to identify permit application deficiencies.

Step 6: Deficiency Review/Final Action

WSDOT may revise the permit application as warranted and resubmit the application to the permitting agency, which will have 30 days from receipt of the revised permit application to take final action.

Dispute Resolution

It is possible that disputes may arise among agencies represented on the ID Team at any of the steps in the One Stop Permitting Process. Every effort should be made to resolve such disputes at the agency level. Disputes in the permitting process, up to but not including final action, that cannot be resolved at the agency level will be addressed by the Dispute Resolution Process established by the TPEAC Committee. Disputes relating to final actions taken by a permitting agency will be resolved through the appropriate statutory appeal process set forth for each respective action. The dispute resolution process may not abrogate or supplant any appeal right of any party under existing statutes.

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)

May 8, 2002

FOR THE ENDORSEMENT OF REVISIONS TO THE NEPA/404 MERGER AGREEMENT AND TPEAC REVIEW OF IMPLEMENTATION	TPEAC RESOLUTION NUMBER 15
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It is the intent of this resolution to seek endorsement by the TPEAC of revisions being proposed to the 1996 NEPA/SEPA/404 Merger Agreement. The revisions have been developed in a collaborative manner by the state and federal signatory agencies to the Agreement. The revisions are intended to achieve a transportation project development process that occurs within a predictable timeframe, has committed participants, appropriately considers and protects the environment and results in transportation projects acceptable to all participants. Further it is the intent of this resolution to seek agreement that implementation of the revised Merger Agreement and select specific projects should be reviewed annually by TPEAC to promote a common understanding of the Merger Agreement as a streamlining tool.

RESOLUTION FOR APPROVAL BY TPEAC:

1. TPEAC endorses the proposed revisions to the 1996 Merger Agreement. (A summary of key changes to the Agreement is attached.)
2. TPEAC agrees to review implementation of the Agreement annually. This review may result in recommendations from the TPEAC to the Signatory Agency Coordination Committee for improving the overall effectiveness of the Agreement.
3. TPEAC will provide guidance and recommendations to the Signatory Agencies Coordination Committee if issues which may affect other projects or processes are identified on specific projects. The TPEAC's comments and recommendations are advisory only. Project issues will be resolved using the Issue Resolution process described in the Agreement.

By adopting this resolution, TPEAC endorses the proposed Agreement revisions and agrees to review implementation annually.

ADOPTED by the TPEAC (May 8, 2002).

Senator Dan Swecker, committee chairman

Result of Vote

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	X			
Senator Prentice	X			
Rep. Morell (for Rep. Ericksen)	X			
Rep. Rockefeller	X			
Department of Transportation	X			
Department of Ecology	X			
Department of Fish & Wildlife	X			
Association of Washington Cities	X			
Washington State Association of Counties	X			

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)

May 8, 2002

FOR THE PURPOSE OF APPROVING THE WATERSHED SUB-COMMITTEE'S RECOMMENDED CRITERIA FOR SELECTING TEST CASES AND THE TEST CASES	TPEAC RESOLUTION NUMBER 16
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Engrossed Senate Bill 6188 of 2001 formed the Transportation Permit Efficiency and Accountability Committee. It sets forth a requirement to develop a watershed approach to environmental mitigation. The approach shall include the following activities:

- (a) "develop methodologies for analyzing environmental impacts and applying compensatory mitigation...
- (b) assess models to collate and access watershed data...
- (c) use existing best available information from watershed planning efforts..."

On April 10, 2002, the TPEAC approved the overall approach for watershed based mitigation as developed by the Watershed Subcommittee. The Watershed Subcommittee has recommended that it identify test cases to further develop and evaluate the approach. The subcommittee developed criteria for selecting test cases and applied the criteria to watersheds throughout the State. Based on the criteria, one watershed, with two ranked backups, were selected for further evaluation, subject to availability of any necessary funding for analysis.

The SR 167 – I 405 interchange is considered as a special case by the subcommittee that warrants a longer term evaluation. Further discussions are planned to see if FHWA funding could be made available to other tests cases.

The subcommittee will continue to work through May to refine a statement of expectations for outcomes from the test cases and to develop work plans and schedules.

It is the intent of this resolution to approve the criteria for selecting test cases and the proposed test cases as recommended by the watershed sub-committee.

RESOLUTION FOR APPROVAL BY TPEAC:

TPEAC finds that the recommended criteria for selecting test cases and the recommended test cases as represented in the

presentation today are reasonable and are approved. The criteria are attached and incorporated by reference.

The approved test case for evaluating over the next four months is the portion of the SR 522 corridor within the Snohomish Watershed from the Paradise Lake interchange to the Snohomish River and includes the Fales/Echo Lake interchange project. The SR 20 road widening project from Fredonia to Mount Vernon is approved as the first backup alternative and the SR 101 road widening project between Sequim and Port Angeles is approved as the second backup alternative.

The backup test cases will be considered if problems arise that would preclude the timely and successful completion of the initial selection.

The I 167 – I 405 intersection project is approved as an additional, special test case with the following caveats:

- This is a good test case for the long-term approach
- This test case is complex and will take more time – it cannot be completed by September
- Support is dependent on endorsement of the WSDOT project manager
-
- Support is predicated on the understanding that FHWA funding for the test case is tied to this project.

Completion of one or more test cases is dependent on the availability of additional resources to complete the analyses. For example, technical expertise in GIS and modeling of water quality and quantity will be needed. If additional resources are not available, the expectations for outcomes will need to be revised.

ADOPTED by the TPEAC (May 8, 2002).

Senator Dan Swecker, committee chairman

Result of Vote

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	X			
Senator Prentice	X			
Rep. Ericksen				X
Rep. Rockefeller	X			
Department of Transportation	X			
Department of Ecology	X			
Department of Fish & Wildlife	X			
Association of Washington Cities	X			
Washington State Association of Counties	X			
Rep. Morell	X			

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)

December 11, 2002

FOR THE PURPOSE OF IDENTIFYING SSHIAP AS A TOOL FOR USE IN MAKING PERMIT DECISIONS AND EVALUATING MITIGATION OPTIONS	TPEAC RESOLUTION NUMBER <u>17</u>
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WHEREAS, on October 9, 2002, TPEAC observed a demonstration of the Salmon and Steelhead Habitat Inventory and Assessment Program (SSHIAP) data system; actual data were displayed in a geographic information system (GIS) that allowed for interactive queries of several data layers, including the Ecosystem Diagnosis and Treatment (EDT) model output; and

WHEREAS, TPEAC has been able to assess the utility of SSHIAP in making permit decisions and evaluating mitigation options for aquatic resources; and

WHEREAS, SSHIAP has been completed by the Washington Department of Fish and Wildlife (WDFW) in southwest Washington (WRIAs 24-29) and has been partially completed by the Northwest Indian Fisheries Commission (NWIFC) in other parts of western Washington (WRIAs 1-23); and

WHEREAS, WDFW will continue to construct and populate the SSHIAP data system in WRIAs 24-62 and WDFW will continue to work with NWIFC to construct and populate the SSHIAP data system in WRIAs 1-23 as funding allows.

NOW THEREFORE BE IT RESOLVED THAT:

TPEAC endorses the development of a comprehensive inter-agency data system to gather and display aquatic resource data. The system should serve as the principle framework for evaluating on-site and watershed-based mitigation options and making permitting decisions for transportation projects.

TPEAC further recognizes that the SSHIAP data system, because of its data screening process, can provide best available information in this capacity, and that, combined with EDT, it is the preferred vehicle for integration of additional data layers related to aquatic resources.

BE IT FURTHER RESOLVED THAT:

TPEAC encourages the use of SSHIAP and EDT by federal, state, and local agencies for permitting decisions, evaluating mitigation options, and developing biological assessments and opinions associated with transportation projects.

BE IT FURTHER RESOLVED THAT

TPEAC encourages the Washington Department of Transportation (DOT) and local, state, and federal permitting resource agencies to develop Memorandum of Understanding (MOU) documents for the development and use of SSHIAP and EDT in permitting and mitigating transportation projects that include:

1. Identification by June 30, 2003 by the Department of Ecology of the specified data sets used for transportation related permit decisions.
2. Establishment of a clear process for integration of data into the SSHIAP system.
3. Identification of funding sources for integration of additional data layers in order to fully build out the SSHIAP system and other appropriate data systems statewide.

BE IT FURTHER RESOLVED THAT:

TPEAC further recommends that lead entities, regional fisheries enhancement groups, and other recognized entities be encouraged to use SSHIAP and EDT to identify and prioritize their salmon recovery projects.

ADOPTED by the TPEAC December 11, 2002

Senator Dan Swecker, Committee Chairman

Result of Vote for Resolution #17

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	x			
Senator Prentice	x			
Representative Ericksen	x			
Representative Rockefeller	x			
Don Nelson, Department of Transportation	x			
Gordon White, Department of Ecology	x			
Greg Hueckel, Department of Fish & Wildlife	x			
Jackie White, Association of Washington Cities	x			
Scott Merriman, Washington State Association of Counties	x			

ADOPTED by the TPEAC December 11, 2002

Senator Dan Swecker, Committee Chairman

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
December 11, 2002

TPEAC ENDORSEMENT OF THE STATEWIDE ENVIRONMENTAL TRAINING PLAN AND ESTIMATED COSTS	TPEAC RESOLUTION NUMBER <u> 18 </u>
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WHEREAS:

The Training, Compliance, and Reporting Subcommittee conducted an extensive survey of environmental compliance and reporting issues utilizing the SONDEO technique; and,

WHEREAS:

The SONDEO identified on-going, consistent training and education as a key to improve the consistency and effectiveness of environmental compliance and enforcement programs; and,

WHEREAS:

The Training, Compliance, and Reporting Subcommittee, including representatives from the Governor's Office, Corps of Engineers, Associated General Contractors of Washington, and the State Departments of Ecology, Fish and Wildlife, and Transportation have cooperatively developed an innovative proposal for an interdisciplinary Statewide Environmental Training and Education Program (see attached); and,

WHEREAS:

The proposed Statewide Environmental Training and Education Program includes both classroom and on-the-ground training for regulators, design professionals, project engineers, operations and maintenance staff, environmental managers and contractors on environmental standards, specifications, rules, and compliance; and,

WHEREAS:

The Training, Compliance, and Reporting Subcommittee has chosen an initial curriculum that includes the highest priority subjects to ensure compliance with environmental standards, specifications, rules, and laws on WSDOT construction sites; and,

WHEREAS:

That, in light of current budget and revenue conditions, the Training, Compliance, and Reporting Subcommittee has developed a detailed budget proposal and fiscal impact statement for the Statewide Environmental Training and Education Program to allow thorough review and consideration of the proposal by TPEAC and the Legislature.

NOW THEREFORE BE IT RESOLVED THAT:

TPEAC recognizes and appreciates the effort put forward by the Training, Compliance, and Reporting Subcommittee to develop the Statewide Environmental Training and Education Program; and,

BE IT FURTHER RESOLVED THAT:

The TPEAC adopts the Statewide Environmental Training and Education Program as a recommendation to the 2003 Legislature, and;

BE IT FURTHER RESOLVED THAT:

The estimated training costs be forwarded to the legislature to aid in budget development.

ADOPTED by the TPEAC (December 11, 2002).

Senator Dan Swecker, Committee Chairman

TPEAC ENDORSEMENT OF THE STATEWIDE
ENVIRONMENTAL TRAINING PLAN AND
ESTIMATED COSTS

TPEAC RESOLUTION
NUMBER 18

Result of Vote

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	x			
Senator Prentice	x			
Rep. Ericksen	x			
Rep. Rockefeller	x			
Department of Transportation	x			
Department of Ecology	x			
Department of Fish & Wildlife	x			
Association of Washington Cities	x			
Washington State Association of Counties	x			

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)
December 11, 2002

TPEAC ENDORSEMENT OF ENVIRONMENTAL COMPLIANCE ASSURANCE PROCEDURE FOR CONSTRUCTION PROJECTS AND ACTIVITIES	TPEAC RESOLUTION NUMBER <u>19</u>
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WHEREAS:

The implementation of a systematic compliance procedure will minimize violations of permit conditions and ensure compliance with environmental standards on WSDOT's construction sites, and;

WHEREAS:

The Training, Compliance, and Reporting Subcommittee, including representatives from the Governor's Office, the Corps of Engineers, Associated General Contractors of Washington, and the State Departments of Ecology, Fish and Wildlife, and Transportation have cooperatively developed the Environmental Compliance Assurance Procedure for Construction Projects and Activities (see attached), and;

WHEREAS:

The Environmental Compliance Assurance Procedure for Construction Projects and Activities provides a standard procedure for identifying unanticipated, unauthorized, or un-permitted environmental conditions encountered during the construction phase on WSDOT construction sites, and;

WHEREAS:

The Environmental Compliance Assurance Procedure for Construction Projects and Activities also defines the coordination, notification, and reporting responsibilities within the WSDOT Regions and Headquarters in order to avoid violations, and ensures a timely response if a violation has occurred, and;

WHEREAS:

The Transportation Permit Efficiency and Accountability Committee feels that the Environmental Compliance Assurance Procedure for Construction Projects and Activities will reduce or eliminate the occurrence of environmental violations during construction at WSDOT project sites;

NOW THEREFORE BE IT RESOLVED THAT:

TPEAC recognizes and appreciates the effort put forward by the Training, Compliance, and Reporting Subcommittee to develop the Environmental Compliance Assurance Procedure for Construction Projects and Activities; and,

BE IT FURTHER RESOLVED THAT:

The TPEAC strongly supports and endorses WSDOT's adoption of the Environmental Compliance Assurance Procedure for Construction Projects and Activities as a key component of the Environmental Management System in order to improve compliance with environmental permit requirements and environmental standards on WSDOT's construction projects.

ADOPTED by the TPEAC (December 11, 2002).

Senator Dan Swecker, Committee Chairman

Result of Vote for Resolution #19

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	X			
Senator Prentice	X			
Representative Ericksen	X			
Representative Rockefeller	X			
Don Nelson, Department of Transportation	X			
Gordon White, Department of Ecology	X			
Greg Hueckel, Department of Fish & Wildlife	X			
Jackie White, Association of Washington Cities	X			
Scott Merriman, Washington State Association of Counties	X			

ADOPTED by the TPEAC (December 11, 2002).

Senator Dan Swecker, Committee Chairman

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND ACCOUNTABILITY
COMMITTEE (TPEAC)
January 8, 2003

TPEAC ENDORSEMENT OF AN INTERAGENCY STATEWIDE AUDITING PROCEDURE FOR ENVIRONMENTAL COMPLIANCE	TPEAC RESOLUTION NUMBER <u>20</u>
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WHEREAS:

The Training, Compliance, and Reporting Subcommittee, including representatives from the Governor's Office, the Corps of Engineers, Associated General Contractors of Washington, and the State Departments of Ecology, Fish and Wildlife, Natural Resources, and Transportation have cooperatively developed the Interagency Auditing Procedure for Environmental Compliance (see attached), and;

WHEREAS:

The Interagency Auditing Procedure for Environmental Compliance provides a standard procedure for collecting information, reporting, and sharing compliance information on a sites environmental conditions, and permit compliance encountered during the construction, operation and maintenance phases on WSDOT sites, and;

WHEREAS:

The Interagency Auditing Procedure for Environmental Compliance defines the coordination, notification, and reporting responsibilities between the agencies and the WSDOT Regions and Headquarters Environmental Offices in order to compare compliance inspection information, violation reports, and implementation of the Compliance Assurance Procedures, and;

WHEREAS:

The Interagency Auditing Procedure for Environmental Compliance defines the tracking steps, information to be reported, and reporting responsibilities between the agencies and the WSDOT Environmental Office in order to provide compliance information in an annual report to the legislators, and;

WHEREAS:

The Transportation Permit Efficiency and Accountability Committee feels that the auditing of the Environmental Compliance Assurance Procedures for Construction, Maintenance and Ferries Projects and Activities will reduce or eliminate the occurrence of environmental violations during construction, operation and maintenance at WSDOT project sites;

NOW THEREFORE BE IT RESOLVED THAT:

TPEAC recognizes and appreciates the effort put forward by the Training, Compliance, and Reporting Subcommittee to develop the Interagency Auditing Procedure for Environmental Compliance, and,

BE IT FURTHER RESOLVED THAT:

The TPEAC strongly supports Ecology, Fish and Wildlife, DNR, and the Corps adoption and endorsement of the Interagency Auditing Procedure for Environmental Compliance as a key component of Environmental Compliance for the state.

ADOPTED by the TPEAC (January 8, 2003).

Senator Dan Swecker, Committee Chairman

Result of Vote for Resolution #20

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	X			
Senator Prentice	X			
Representative Ericksen				X
Representative Rockefeller				X
Jerry Alb, Department of Transportation	X			
Scott Boettcher, Department of Ecology	X			
Peter Birch, Department of Fish & Wildlife	X			
Association of Washington Cities				X
Washington State Association of Counties				X

ADOPTED by the TPEAC (January 8, 2003).

Senator Dan Swecker, Committee Chairman

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND ACCOUNTABILITY
COMMITTEE (TPEAC)
January 8, 2003

TPEAC ENDORSEMENT OF ENVIRONMENTAL COMPLIANCE ASSURANCE PROCEDURES FOR MAINTENANCE AND FERRIES PROJECTS AND ACTIVITIES	TPEAC RESOLUTION NUMBER <u> 21 </u>
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WHEREAS:

The Training, Compliance, and Reporting Subcommittee, including representatives from the Governor's Office, the Corps of Engineers, Associated General Contractors of Washington, and the State Departments of Ecology, Fish and Wildlife, and Transportation have cooperatively developed the Environmental Compliance Assurance Procedures for Maintenance and Ferries Projects and Activities (see attached), and;

WHEREAS:

The Environmental Compliance Assurance Procedure for Maintenance and Ferries Projects and Activities provides a standard procedure for identifying unanticipated, unauthorized, or unpermitted environmental conditions encountered during the construction, operation and maintenance phases on WSDOT maintenance sites, and on ferry vessels and terminals, and;

WHEREAS:

The Environmental Compliance Assurance Procedures for Maintenance and Ferries Projects and Activities also defines the coordination, notification, and reporting responsibilities within the WSDOT Regions and Headquarters and between the Maintenance and Ferries Offices with the Environmental Office in order to avoid violations, and ensures a timely response if a violation has occurred, and;

WHEREAS:

The Transportation Permit Efficiency and Accountability Committee feels that the Environmental Compliance Assurance Procedure for Maintenance and Ferries Projects and Activities will reduce or eliminate the occurrence of environmental violations during construction, operation and maintenance at WSDOT project sites;

NOW THEREFORE BE IT RESOLVED THAT:

TPEAC recognizes and appreciates the effort put forward by the Training, Compliance, and Reporting Subcommittee to develop the Environmental Compliance Assurance Procedures for Maintenance and Ferries Projects and Activities; and,

BE IT FURTHER RESOLVED THAT:

The TPEAC strongly supports WSDOT's adoption and endorsement of the Environmental Compliance Assurance Procedure for Maintenance and Ferries Projects and Activities as a key component of the Environmental Management System in order to improve compliance with environmental permit requirements and environmental standards on WSDOT's construction projects, and for operation and maintenance activities.

ADOPTED by the TPEAC January 8, 2003.

Senator Dan Swecker, Committee Chairman

Result of Vote for Resolution #21

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	X			
Senator Prentice	X			
Representative Ericksen				X
Representative Rockefeller				X
Jerry Alb, Department of Transportation	X			
Scott Boettcher, Department of Ecology	X			
Peter Birch, Department of Fish & Wildlife	X			
Association of Washington Cities				X
Washington State Association of Counties				X

ADOPTED by the TPEAC January 8, 2003.

Senator Dan Swecker, Committee Chairman

RESOLUTION OF THE TRANSPORTATION PERMIT EFFICIENCY AND
ACCOUNTABILITY COMMITTEE (TPEAC)

January 8, 2003

FOR THE PURPOSE OF DIRECTING THE WATERSHED BASED MITIGATION SUBCOMMITTEE TO DEVELOP A WORKPLAN	TPEAC RESOLUTION NUMBER <u>22</u>
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WHEREAS:

The Watershed Based Mitigation Subcommittee has made progress in creating methodologies for identifying alternative mitigation strategies; and,

WHEREAS:

The goal of the Clean Water Act (33 U.S.C., Chapter 26) is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters," and in that context allows for alternative mitigation of stormwater impacts; and

WHEREAS:

There currently exists a multi-agency Alternative Mitigation Policy Guidance that can be built on; and,

WHEREAS:

Opportunities may exist to create a more efficient stormwater compliance process that allows greater flexibility, higher ecological benefits and lower costs.

NOW THEREFORE BE IT RESOLVED THAT:

TPEAC directs the Watershed Based Mitigation Subcommittee to develop a work plan to evaluate applications of watershed processes to stormwater mitigation. Specifically, the work plan must address the following:

1. Review issues and create technical methods needed to apply watershed based mitigation concepts to stormwater
2. Pilot these methods on a project in an urban area with major stormwater mitigation needs to determine their applicability on a broader scale.
3. Create policy recommendations on how and when watershed based stormwater mitigation is both desirable and acceptable, consistent with the Federal Clean Water Act.

ADOPTED by the TPEAC January 8, 2003

Senator Dan Swecker, Committee Chairman

Result of Vote for Resolution #22

Committee Member	Yes	No	Abstain	Absent
Senator Swecker	X			
Senator Prentice	X			
Representative Ericksen				X
Representative Rockefeller				X
Jerry Alb, Department of Transportation	X			
Scott Boettcher, Department of Ecology	X			
Peter Birch, Department of Fish & Wildlife	X			
Association of Washington Cities				X
Washington State Association of Counties				X

ADOPTED by the TPEAC January 8, 2003

Senator Dan Swecker, Committee Chairman